Development Services Department
Environmental Coordinator
450 110th Avenue NE
Bellevue, WA 98009-9012

DETERMINATION OF NON-SIGNIFICANCE

PROPOSAL NAME:	Eastview Corporate Plaza
LOCATION:	14710 SE 36th St
FILE NUMBERS:	20-120919-LO
PROPONENT:	Darren Murata

DESCRIPTION OF PROPOSAL:
Construction of a new, 40-space surface parking lot with a block wall within a steep slope and steep slope structure setback. The proposal includes mitigation in the form of native steep slope plantings and vegetative enhancement of an existing stand of mature trees.

The Environmental Coordinator of the City of Bellevue has determined that this proposal does not have a probable significant adverse impact upon the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(C). This decision was made after the Bellevue Environmental Coordinator reviewed the completed environmental checklist and information filed with the Land Use Division of the Development Services Department. This information is available to the public on request.

This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS. There is a 14-day appeal period. Only persons who submitted written comments before the DNS was issued may appeal the decision.

DATE ISSUED: 5/20/2021

APPEAL DATE: 6/3/2021

A written appeal must be filed in the City Clerk's Office by 5 p.m. on the appeal date noted above.

This DNS may be withdrawn at any time if the proposal is modified so as to have significant adverse environmental impacts; if there is significant new information indicating a proposals probable significant adverse environmental impacts (unless a non-exempt license has been issued if the proposal is a private project) or if the DNS was procured by misrepresentation or lack of material disclosure.

Issued By: *Heidi Bedwell, Planning Manager* **for** **Date:** May 20, 2021
Elizabeth Stead, Environmental Coordinator
Development Services Department

City of Bellevue
Development Services Department
Land Use Staff Report

Proposal Name:	**Eastview Corporate Plaza**
Proposal Address:	**14710 SE 36th St**
Proposal Description:	Critical Areas Land Use Permit approval to construct a new, 40-space surface parking lot with a block wall within a steep slope and steep slope structure setback. Mitigation proposed includes native steep slope plantings and vegetative enhancement of an existing stand of mature trees. The proposal is supported by a critical areas report, geotechnical report, and a mitigation plan
File Number:	**20-120919-LO**
Applicant:	**Darren Murata**
Decisions Included:	**Process II**
Planner:	**David Wong**, Land Use Planner
State Environmental Policy Act Threshold Determination:	**Determination of Non-Significance** *Heidi Bedwell, Planning Manager* _____ Elizabeth Stead, Environmental Coordinator Development Services Department
Department Decision:	**Approval with Conditions** *Heidi Bedwell, Planning Manager* _____ Elizabeth Stead, Land Use Director Development Services Department

Application Date:	November 10, 2020
Notice of Application Publication Date:	December 31, 2020
Decision Publication Date:	May 20, 2021
Appeal Deadline:	June 3, 2021

For information on how to appeal a proposal, visit Development Services Center at City Hall or call (425) 452-6800. Comments on State Environmental Policy Act (SEPA) Determinations can be made with or without appealing the proposal within the noted comment period for a SEPA Determination. Appeal of the Decision must be received in the City's Clerk's Office by 5 PM on the date noted for appeal of the decision.

CONTENTS

Attachments

1. Site Plan
2. Mitigation, Restoration, and Enhancement Plan
3. Critical Areas Report – DOWL (November 2020)
4. Geotechnical Engineering Report – Robinson Noble (October 23, 2020)

I. Request & Review Process

The applicant has requested a Critical Areas Land Use Permit review of a proposal to construct a 40-space surface parking lot and block wall within a critical area steep slope and 75-foot steep slope structure setback. The proposed surface parking lot is located within the code required steep slope and steep slope structure setback, and requests allowance of permanent modification 1,280 square feet of the steep slope and disturbance of an additional 2,050 square feet of the steep slope. The proposal includes approximately 4,345 square feet of steep slope mitigation, restoration, and enhancement planting to improve degraded slope. See Figure 1 for proposed site conditions.

Figure 1

Proposals to permanently modify and/or disturb a steep slope require the approval of a Critical Areas Land Use Permit (CALUP) with Critical Areas Report (CAR), and are subject to the requirements of LUC 20.25H and 20.30P, including but not limited to those sections governing steep slopes, Critical Areas Reports (CAR), and mitigation.

II. Site, Zoning, and Land Use Context and Critical Areas Functions and Values

A. Site Context

The subject site is made up of two (2) parcels (2205500610, 2205500620) approximately

64,090 square feet in size; and is currently developed with a 4-story office building and a 1-story single-family residence. A steep slope critical area with a north-facing aspect is located between the existing single-family residence and SE 37th St. The site contains a variety of native and non-native vegetation, including but not limited to Douglas-fir (*Pseudotsuga menziesii*), big-leaf maple (*Acer macrophyllum*), western redcedar (*Thuja plicata*), native and non-native shrubs, and invasive woody species. Lack of native vegetation coverage and location of existing single-family residential improvements have been identified within the steep slope structure setback, including the foundation of another single-family dwelling that has been demolished previously. The soil of this site has been identified as Arrents, Alderwood material (AmC) according to mapping provided by the Natural Resources Conservation Service (NRCS). See Figure 2 below for the current site**.**

Figure 2

B. Zoning and Comprehensive Plan Designation

The property is zoned Office (O) and is with the Transition Areas Design District Overlay due to its proximity to single family zoned properties. The site is also located within the Eastgate subarea and has an Office Comprehensive Plan designation. See Figure 3 for zoning map and Figure 4 for subarea information.

Figure 3

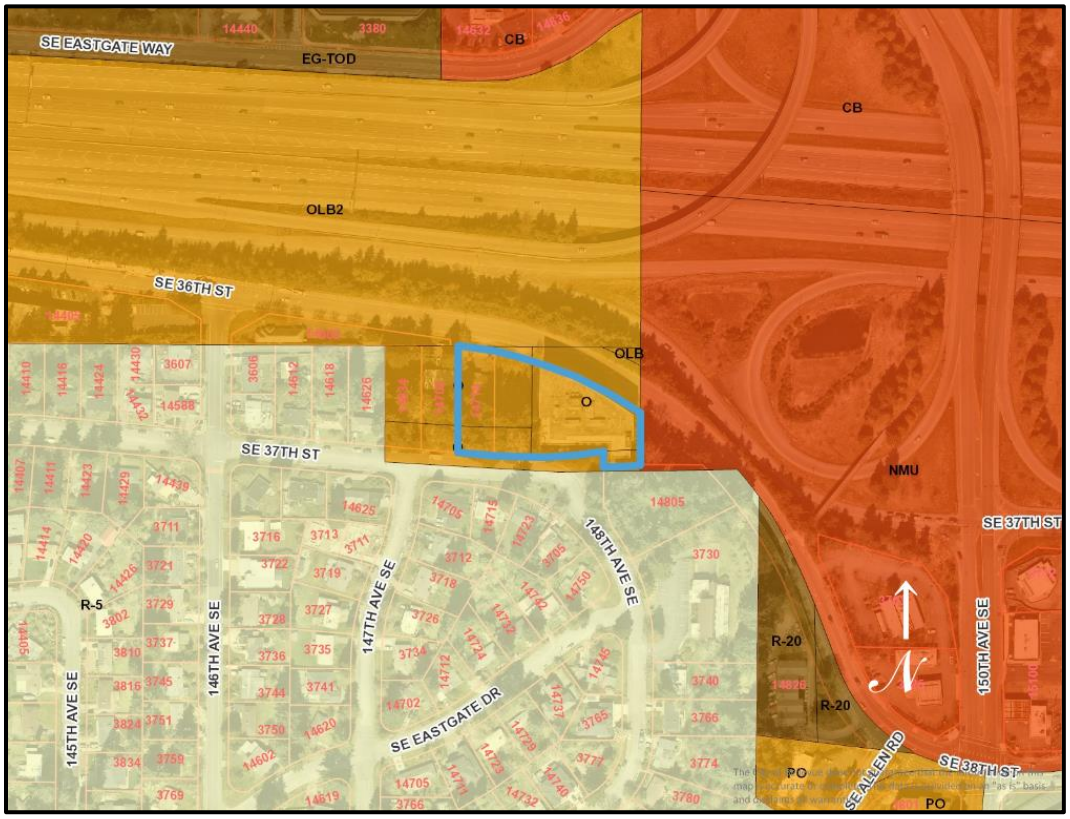
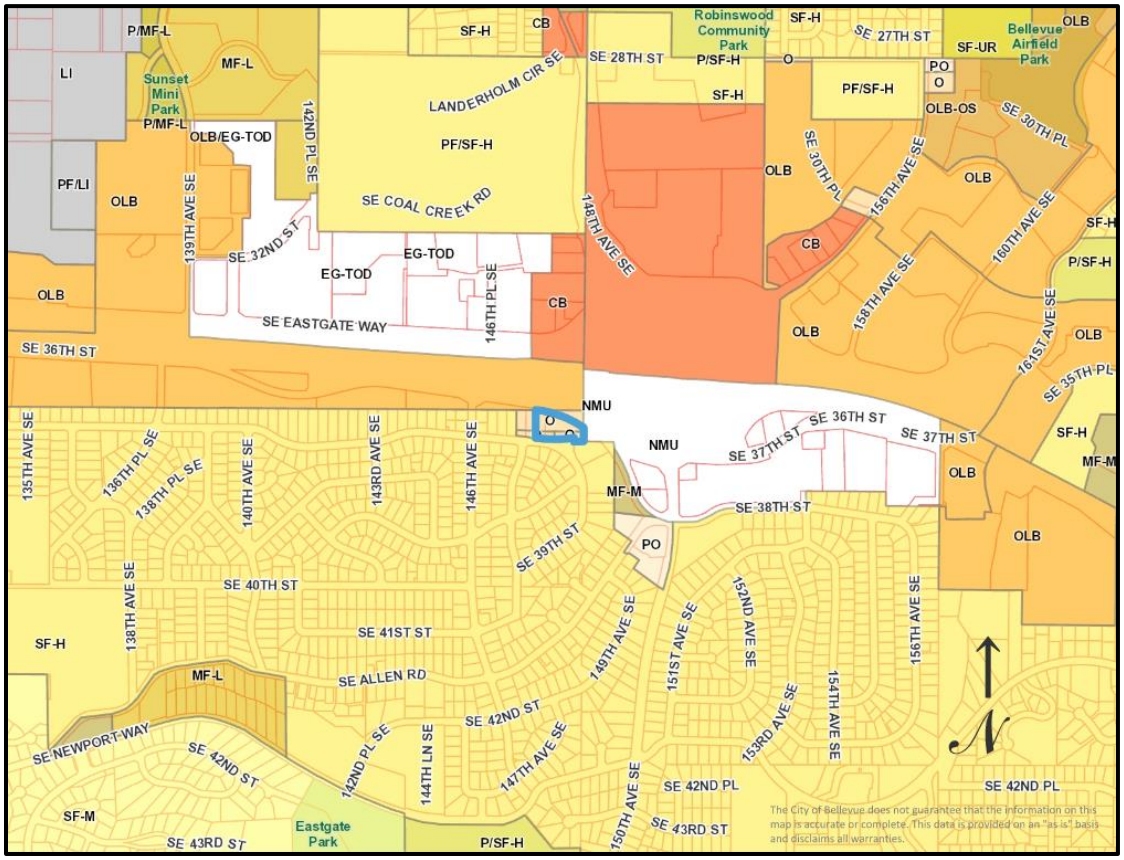


Figure 4

C. Land Use Context

The site is surrounded to the south and west by Single-Family Medium Density (SF-M) District; to the north and west by Office Limited Business (OLB) District; and to the east by Neighborhood Mixed Use (NMU) district. See Figure 5 for Comprehensive Plan designations.

Figure 5



D. Critical Areas Functions and Values

i. Steep Slopes and Geologic Hazards

Geologic hazards pose a threat to the health and safety of citizens when commercial, residential, or industrial development is inappropriately sited in areas of significant hazard. Some geologic hazards can be reduced or mitigated by engineering, design, or modified construction practices. When technology cannot reduce risks to acceptable levels, building in geologically hazardous areas is best avoided (WAC 365-190).

Steep slopes may serve several other functions and possess other values for the City and its residents. Several of Bellevue's remaining large blocks of forest are located in steep slope areas, providing habitat for a variety of wildlife species and important linkages between habitat areas in the City. These steep slope areas also act as conduits for groundwater, which drains from hillsides to provides a water

source for the City's wetlands and stream systems. Vegetated steep slopes also provide a visual amenity in the City, providing a "green" backdrop for urbanized areas enhancing property values and buffering urban development.

III. Consistency with Land Use Code Requirements:

A. Zoning District Dimensional Requirements:

The site is located within the Office (O) zoning district and Transition Area overlay district. All zoning dimensional standards will be confirmed during review of the required Clearing & Grading permit.

Basic Information			
Zoning District	Office (O)		
Gross Lot Area	64,090 SF*		
Dimensional Requirement	**Standard**	**Proposed**	**Complies?**
Front Yard Structure Setback (feet)	30	22.9	Existing office structure is considered legal non-conforming. No modification to existing structure or further reduction in front setback proposed. Can comply.
Rear Yard Structure Setback (feet)	25	10	Existing office structure is considered legal non-conforming. No modification to existing structure or further reduction in front setback proposed. Can comply.
Side Yard Structure Setback (feet)	20	20**	Existing single-family structure proposed to be demolished. Post-demolition, site can comply with 20-foot side yard setback.
Combined Side Yard Structure Setback (feet)	40	40**	Existing single-family structure proposed to be demolished. Post-demolition, site can comply with 40-foot combined side yard setback
Maximum Lot Coverage (percent)	35%	30.5%	Complies
Maximum Impervious Surface (percent)	60%	59%	Complies

**The site contains two adjacent parcels. Conformance with dimensional requirements will require the two parcels to be combined through a boundary line adjustment. See Section X for Conditions of Approval related to boundary line adjustment requirement.*

***The site contains an existing single-family structure and shed and are proposed for demolition. See Section X for Conditions of Approval related to demolition of existing structures.*

B. Consistency with Landscaping Development:

Office-zoned (O) parcels require street frontage and interior property lines to contain Type III landscaping and providing at least a width of 10 feet of coverage. In addition to property line landscaping, surface parking lots require Type V landscaping to be installed within the parking area. The conceptual plan proposed meets the intent of LUC 20.20.520 while also meeting Transportation requirements for vehicular and pedestrian sight distance requirements along SE 36th St. A separate Land Use Exemption will be required to verify landscaping requirements meet existing development approval and/or intent and current standards listed above. See Section X for Conditions of Approval related to the Land Use Exemption.

C. Consistency with Land Use Code Critical Areas Performance Standards:

i. Steep Slope Performance Standards – 20.25H.125

Development on sites with steep slopes or steep slope critical area buffers shall incorporate the following performance standards, as applicable:

1. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;

The proposed surface lot will require a cut wall approximately 12.5 feet high to be placed in a portion of the slope at approximately 367' ASL in order to match the proposed surface parking lot grade while providing the minimum amount of circulation area. Grades temporarily impacted by wall installation will be restored to pre-disturbance elevations. No other improvements or changes in topography of the remainder of the steep slope are proposed. See Section X for Conditions of Approval related to restoration.

2. **Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;**

The proposed surface parking lot has been designed and located to take advantage of existing development and disturbance areas below the steep slope to minimize direct impacts to the slope. A mixed stand of mature Douglas-fir (*Pseudotsuga* menziesii), hemlock (*Tsuga* heterophylla), madrone (Arbutus menziesii), and big-leaf maple (*Acer* macrophyllum) dominates the upper portion of the steep slope and development has been designed to avoid impacts to the upper slope where the stand is located. Some vegetation loss of the lower slope will occur due to wall installation which the proposal will mitigate through 4,345 square feet of native steep slope plantings and vegetative enhancement. See Section X for Conditions of Approval related to mitigation, restoration, and enhancement plan requirements.

3. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

The Geotechnical Engineering Report provided by Robinson Noble

(Attachment 4) states:

"*In our opinion, the proposed modifications will not increase the threat of geologic hazards to adjacent properties…*" and "*…have been designed to mitigate hazards to safety factors exceeding the required safety factors."*

The report contains recommendations for site development and confirmation of compliance with these recommendations and City requirements will be reviewed during development permit review. The applicant will be required to provide a hold harmless agreement to the City prior to development permit approval. See Section X for Conditions of approval related to geotechnical recommendations, review, and hold harmless requirements.

4. **The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;**
   A cut block wall is proposed as part of the required development of the surface parking lot. This will ensure existing slope grades above the wall will be maintained while providing support for the slope and ample space for maneuverability and parking within the parking lot.

5. **Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;**
   The proposed development has requested to permanently modify a 1,280 square-foot area of steep slope to no longer be classified as critical area. No other impervious surface is proposed outside of the modified area.

6. **Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criteria;**
   Stepped wall construction is not feasible and would create greater impacts above the proposed wall; decrease useable space within the degraded area; and significantly reduce the number of park stalls provided. The cut wall design provides the least amount of impact to the steep slope and mature vegetation on-site.

7. **Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;**
   Building foundation walls are not feasible for the proposed cut wall and would

require additional permanent grading to occur outside of the wall location. The existing office structure foundation would also require modification since no other structure is proposed under this scope of work.

8. **On slopes in excess of 40 percent, use of pole-type construction which conforms to the existing topography is required where feasible. If pole-type construction is not technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;**
   No structure development is proposed over slopes in excess of 40 percent.
   A cut retaining wall is proposed for the creation of a surface parking lot, which would not be feasible through pole-type construction.

9. **On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and**
   No parking or garages on fill-based construction types are proposed.

10. **Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210.**
    A mitigation plan that includes approximately 2,645 square feet of native steep slope mitigation planting and 1,700 square feet of native enhancement planting located above the block retaining wall has been submitted with this proposal. The total exceeds the 1,280 square feet of permanent steep slope modification required for the surface parking lot improvements and is intended to provide functional improvement stormwater quality and habitat above what currently exists on-site. See Section X for mitigation conditions of approval.

D. Consistency with Critical Areas Report LUC 20.25.230.
The applicant supplied a complete critical areas report prepared by Dowl, a qualified professional (Attachment 2). The report met the minimum requirements in LUC 20.25H.250.

IV. Public Notice and Comment

Application Date:	November 10, 2020
Public Notice (500 feet):	December 31, 2020
Minimum Comment Period:	December 19, 2019

The Notice of Application for this project was published in the City of Bellevue weekly permit bulletin on December 31, 2020. It was mailed to property owners within 500 feet of the project site. No comments have been received from the public as of the writing of this staff report.

V. Summary of Technical Reviews

Clearing & Grading:
The Clearing & Grading Division of the Development Services Department has reviewed the proposed development for compliance with Clearing & Grading codes and standards. The Clearing & Grading staff found no issues with the proposed development. Work within proximity to the steep slope will be restricted during the rainy season unless specifically allowed by Clearing & Grading approval through implementation of specific BMPs. See Section X for conditions of approval.

Utilities:
The development proposed for this application has been reviewed on a conceptual basis and can be feasibly constructed under current utility codes and standards without requesting modifications or deviations from them. Major changes to the design or information submitted under this permit may cause delay in approval of future construction permits. It is the applicant's responsibility to verify the accuracy all field information and data gathered for the utility design and feasibility of this project.

Storm Drainage
The project proposes a new parking not to support the existing building and the proposed improvement will trigger minimum requirements 1-9 of the storm and surface water engineering standards and WA DOE requirements. The applicant proposes to install an infiltration system to meet the DOE minimum requirements.

Water
A portion of the existing fire hydrant onsite will need to be reconstructed to accommodate clear and grading on the site.

Sewer
No sewer improvements are proposed for the site.

See Section X for Conditions of Approval related to Utilities review and permitting requirements.

VI. State Environmental Policy Act (SEPA)

The environmental review indicates no probability of significant adverse environmental impacts occurring as a result of the proposal. The Environmental Checklist submitted with the application adequately discloses expected environmental impacts associated with the project. The City codes and requirements, including the Clear and Grade Code, Utility Code, Land Use Code, Noise Ordinance, and other construction codes are expected to mitigate potential environmental impacts. Therefore, issuance of a Determination of Non-Significance (DNS) is the appropriate threshold determination under the State Environmental Policy Act (SEPA) requirements.

A. Earth and Water

A temporary erosion and sedimentation control plan is included in the project plans, and addresses all requirements for restoring the site to its current condition as well as erosion and sedimentation management practices. Erosion and sediment control best management practices include the installation of silt fencing around the work area and covering exposed soils to prevent migration of soils off-site.

B. Plants

A mitigation, restoration, and enhancement plan is in included in the project plans, and will off-set native vegetation removed under this proposal. The proposal has been designed and located to avoid the larger, contiguous stand of native trees in the upper portions of the steep slope, and mitigation and enhancement of the lower slope will provide greater native species diversity than what currently exists. See Section X for Conditions of Approval related to mitigation, restoration, and enhancement plans.

VII. Changes to Proposal as a Result of City Review

Minor changes were requested to address planting areas; vehicular and pedestrian visibility; and Utilities Department requirements.

VIII. Decision Criteria

A. Critical Areas Report Decision Criteria-Proposals to Reduce Regulated Critical Area Buffer LUC 20.25H.255.

The Director may approve, or approve with modifications, a proposal to reduce the regulated critical area buffer on a site where the applicant demonstrates:

1. The modifications and performance standards included in the proposal lead to levels of protection of critical area functions and values at least as protective as the application of the regulations and standards of this code;

Finding: The modifications and performance standards included in this proposal will lead to improved levels of protection of critical areas functions and values. The CAR (Attachment 3) identifies and documents the degraded conditions on-site, both in the area of where the proposed surface parking lot will be located and where the proposed mitigation planting will occur. With the installation of native vegetation, net improvement is expected, primarily through the improvements to the existing habitat conditions and stormwater quality. See Section X for Conditions of Approval related mitigation plan requirements.

2. Adequate resources to ensure completion of any required restoration, mitigation and monitoring efforts;

Finding: A five-year maintenance and monitoring plan has been included in the

proposal. In addition to maintenance and monitoring activities, an assurance device associated with the maintenance and monitoring will be required as part of the Clearing & Grading Permit. See Section X for Conditions of Approval related to maintenance, monitoring, and surety.

3. The modifications and performance standards included in the proposal are not detrimental to the functions and values of critical area and critical area buffers off-site; and

Finding: The modifications and performance standards included in the proposal are not detrimental to off-site critical areas and buffers and are expected to lead to improved steep slope function for on-site and off-site steep slope area and buffer. As noted in the Critical Areas Report the areas of low level of function on this site would continue without the to the steep slope and the mitigation plan. The steep slope functions will be improved with the proposed actions.

4. The resulting development is compatible with other uses and development in the same land use district. (Ord. 5680, 6-26-06, § 3)

Finding: The proposal does not change the underlying zoning and will provide additional needed parking for the office use on eastern portion of the site. Landscaping and parking improvements will require a separate Land Use Exemption to verify compliance with landscape design requirements for surface parking and frontage improvements. See Section X for Conditions of Approval related to the Land Use Exemption.

B. Critical Areas Land Use Permit Decision Criteria 20.30P

The Director may approve or approve with modifications an application for a critical areas land use permit if:

1. The proposal obtains all other permits required by the Land Use Code;

Finding: The applicant will be required to apply for a Clearing & Grading Permit after the approval of the Critical Areas Land Use Permit. See Section X for Conditions of Approval related to Clearing & Grading Permit requirements.

2. The proposal utilizes to the maximum extent possible the best available construction, design and development techniques which result in the least impact on the critical area and critical area buffer;

Finding: The proposal has been designed and located to minimize impacts to and improve steep slope critical area functions. The proposed surface parking lot and block wall are located within an area of low function due to existing improvements and degraded conditions. Locating the development as proposed has the least impact on the steep slope critical area while providing additional parking and on-site circulation for safe

ingress and egress to the property that was not contemplated in past development of the property. The proposal utilizes existing development and disturbance areas to help minimize development impacts to the steep slope and to a stand of mature trees located in the upper portion of the steep slope. Additionally, on-site mitigation through steep slope buffer plantings and vegetation enhancement will help to provide uplift in function both to the steep slope critical area.

3. The proposal incorporates the performance standards of Part 20.25H to the maximum extent applicable, and ;

Finding: As discussed in Section III.B of this report, the proposal incorporates the performance standards of Part 20.25H to the maximum extent applicable.

4. The proposal will be served by adequate public facilities including street, fire protection, and utilities; and;

Finding: The site is currently served by adequate public facilities and no additional need is anticipated with this proposal.

5. The proposal includes a mitigation or restoration plan consistent with the requirements of LUC Section 20.25H.210; and

Finding: The proposal includes a mitigation plan that provides native planting consistent with LUC 20.25H.210. The plan also contains a five-year maintenance and monitoring plan to ensure successful establishment of installed planting. See Section X for mitigation condition of approval.

6. The proposal complies with other applicable requirements of this code.

Finding: As discussed in Section III and V of this report, the proposal complies with all other applicable requirements of the Land Use Code.

IX. Conclusion and Decision

After conducting the various administrative reviews associated with this proposal, including Land Use Code consistency, SEPA, City Code and Standard compliance reviews, the Director of the Development Services Department does hereby **approve with conditions** the proposal to construct a 40-space surface parking lot and block wall at 14710 SE 36th St as shown on the proposed plans (Attachment 1).

Note- Expiration of Approval: In accordance with LUC 20.30P.150 a Critical Areas Land Use Permit automatically expires and is void if the applicant fails to file for a Clearing & Grading Permit or other necessary development permits within one year of the effective date of the approval.

X. Conditions of Approval

The applicant shall comply with all applicable Bellevue City Codes and Ordinances including but not limited to:

Applicable Ordinances	Contact Person
Clearing & Grading Code – BCC 23.76	Tom McFarlane, 425-452-5207
Utilities Code – BCC 24	Mark Dewey, 425-452-6179
Land Use Code – BCC 20	David Wong, 425-452-4282

The following conditions are imposed under the Bellevue City Code or SEPA authority referenced:

1. Building Permit Required: Approval of this Critical Areas Land Use Permit does not constitute an approval of a development permit. A Building Permit with Clearing & Grading review shall be required and approved. Plans consistent with those submitted as part of this permit application shall be included in the Building Permit application.

Authority: Land Use Code 20.30P.140, Clearing & Grading Code 23.76.035
Reviewers: David Wong, Land Use; Tom McFarlane, Clearing & Grading

2. Land Use Exemption: A Land Use Exemption is required to be submitted and approved in conjunction with the required Clearing & Grading Permit.

Authority: Land Use Code 20.30F.175
Reviewer: David Wong, Land Use

3. Boundary Line Adjustment Required: A boundary line adjustment combining the two parcels under this proposal is required to be approved prior to the issuance of the required Clearing & Grading Permit.

Authority: Land Use Code 20.20.010, 20.45B.260
Reviewer: David Wong, Land Use

4. Demolition of Existing Structures: A demolition permit to remove the existing single-family structure and shed is required to be approved and all required inspection completed prior to the approval of a boundary line adjustment.

Authority: Land Use Code 20.20.010, 20.45B.260
Reviewer: David Wong, Land Use

5. Utilities Conceptual Approval: Utility Department approval of the design review application is based on the final conceptual design submitted with this application. Small changes to the site layout may be required to accommodate the utilities after utility engineering is approved. The proposed water, and storm drainage systems shall be

designed per the current City of Bellevue Utility Codes and Utility Engineering Standards. Utilities Department design review, plan approval, and field inspection is performed under the Utility Developer Extension Agreement (DEA) and Utilities Permit Processes. A water, and storm Developer Extension Agreement will be required for the project.

Authority: Utilities Code 24.02, 24.04, 24.06
Reviewer: Mark Dewey, Utilities

6. Geotechnical Analysis: The project geotechnical engineer must review the final plans, including all foundation, retaining wall, shoring, and vault designs. A letter from the geotechnical stating that the plans conform to the recommendations in the geotechnical report (dated 10/23/2020) and any addendums and supplements must be submitted to the clearing and grading section prior to issuance of the construction permit.

Authority: Land Use Code 20.25H.125; Clearing & Grading Code 23.76.050
Reviewers: David Wong, Land Use; Tom McFarlane, Clearing & Grading

7. Hold Harmless Agreement: Prior to Clearing & Grading Permit approval, the applicant or property owner shall submit a hold harmless agreement releasing the City of Bellevue from any and all liability associated with the steep slope buffer modification. The agreement must meet city requirements and must be reviewed by the City Attorney's Office for formal approval.

Authority: Land Use Code 20.30P.170
Reviewer: David Wong, Land Use

8. Mitigation and Enhancement Plan: A final mitigation plan in accordance with the conceptual mitigation plan provided under this application shall be submitted for review and approval by the City of Bellevue prior to issuance of the Clearing & Grading Permit

Authority: Land Use Code 20.25H.125
Reviewer: David Wong, Land Use

9. Restoration Plan: A final restoration plan in accordance with the conceptual mitigation, restoration, and enhancement plan for all areas of temporary disturbance shall be submitted for review and approval by the City of Bellevue prior to the issuance of the Clearing & Grading Permit.

Authority: Land Use Code 20.25H.125
Reviewer: David Wong, Land Use

10. Maintenance & Monitoring: A maintenance & monitoring plan in conformance with the plan (Attachment 2 & 3) submitted under this application shall be submitted for review and approval by the City of Bellevue prior to issuance of the Clearing & Grading Permit. The mitigation plan shall be maintained and monitored for a minimum of five (5) years. Annual

reporting shall be submitted at the end of each growing season or by December 1 for each of the five years this plan is applicable. All reporting shall be submitted by email to dwong@bellevuewa.gov or by mail to:

Environmental Planning Manager
Development Services Department
City of Bellevue
PO Box 90012
Bellevue, WA 98009-9012

Authority: Land Use Code 20.25H.220.D, 20.25H.220.H
Reviewer: David Wong, Land Use

11. Maintenance and Monitoring Assurance Device: A financial surety is required to be submitted to ensure the mitigation planting successfully establishes. A maintenance assurance device that is equal to 100% of the cost of plants and installation or 20% of the cost of five (5) years of monitoring is required to be held for a period of five (5) years from the date of Clearing & Grading Permit issuance. A cost estimate is required to be provided with the Clearing & Grading Permit. The financial surety is required to be posted prior to Clearing & Grading Permit issuance. Release of the surety after the 5-year monitoring period is contingent upon a final inspection of the planting by Land Use Staff that finds the maintenance and monitoring plan was successful and the mitigation meets performance standards.

Authority: Land Use Code 20.25H.220.F
Reviewer: David Wong, Land Use

12. Rainy Season restrictions: Due to the proximity of working occurring and the presence of a steep slope on-site, no Clearing & Grading activity may occur during the rainy season, which is defined as October 1 through April 30 without written authorization of the Development Services Department. Should approval be granted for work during the rainy season, increased erosion and sedimentation measures, representing the best available technology must be implemented prior to beginning or resuming site work.

Authority: Bellevue City Code 23.76.093.A,
Reviewer: Tom McFarlane, Clearing & Grading

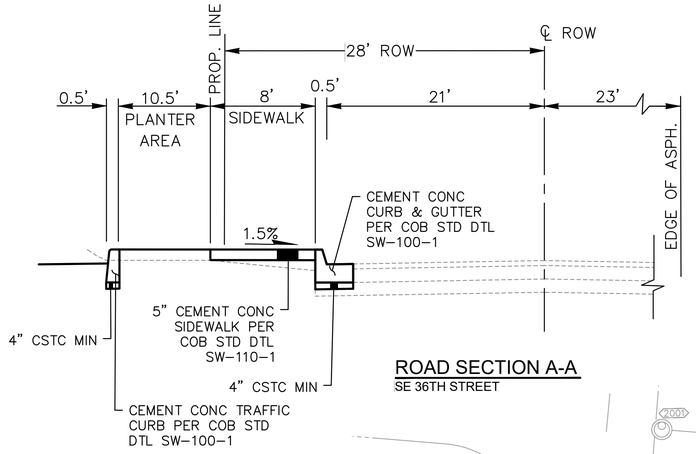
NOTE:

IMPERVIOUS AREA COVERAGE

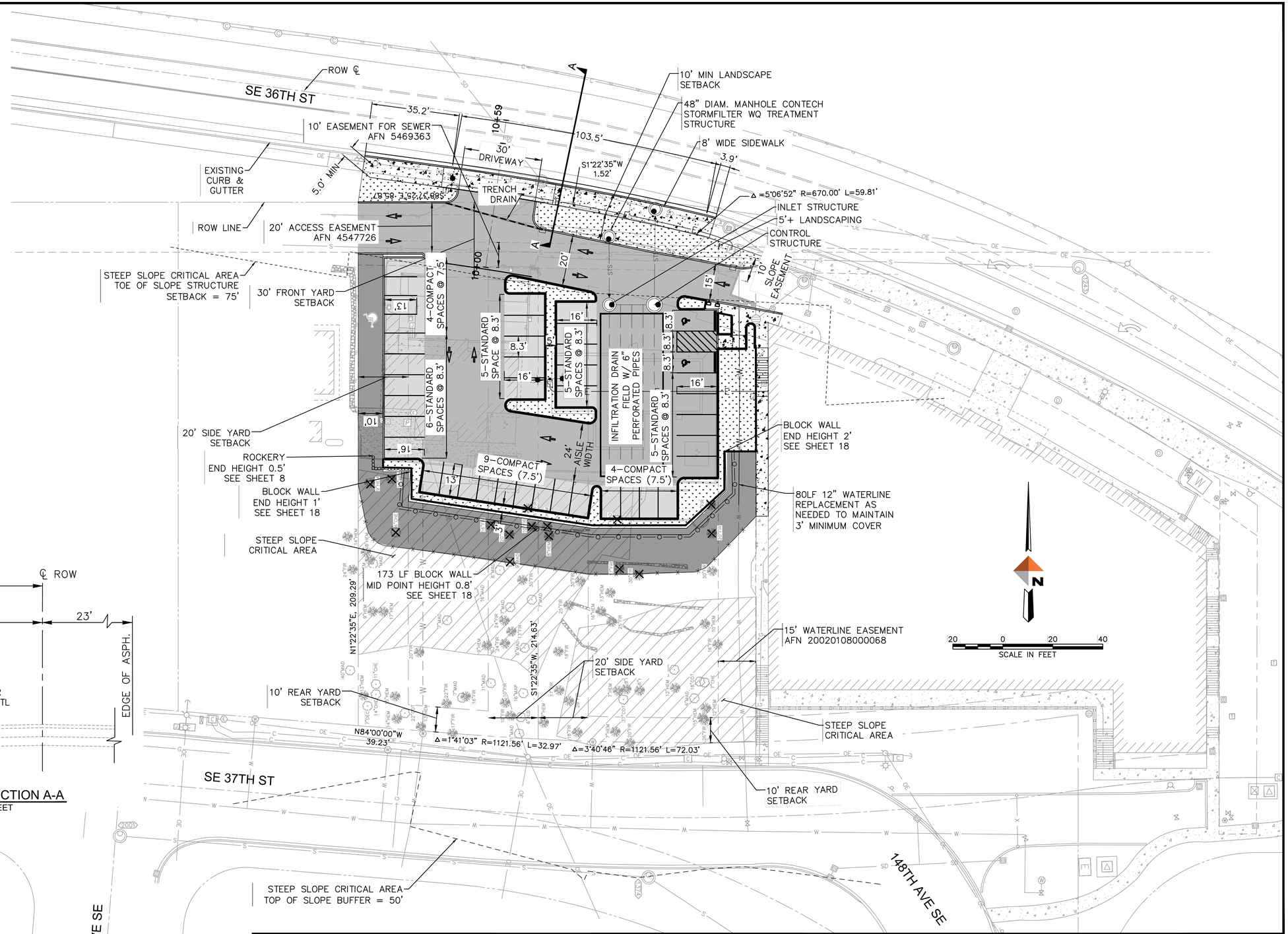
1. MAX IMPERVIOUS AREA ALLOWED: 38,464 SF
   PROPOSED IMPERVIOUS: 10,384 SF
   TOTAL PROPOSED IMPERVIOUS: 37,670 SF
2. TREES DESIGNATED FOR REMOVAL ARE LABELED ON THIS SHEET PER LEGEND. ALL OTHER TREES SHALL BE RETAINED.

LEGEND

- PROPERTY LINE
- ACCESS EASEMENT LINES
- WATERLINE EASEMENT LINES
- SEWER EASEMENT LINES
- SLOPE EASEMENT LINES
- PROPERTY SETBACKS
- PROPOSED STORM DRAINAGE
- PROPOSED STORM DRAINAGE MANHOLE/CATCHBASIN
- CURB & GUTTER
- CURB
- SIDEWALK
- IMPERVIOUS PAVEMENT
- PERVIOUS PAVEMENT
- LOT FRONTAGE/SIDEYARD LANDSCAPE
- PARKING LANDSCAPE
- FENCING
- LIMITS OF CLEARING AND GRADING
- BLOCK WALL
- PAVEMENT MARKINGS
- ROCKERY
- TREE REMOVAL



ROAD SECTION A-A
SE 36TH STREET



REVISIONS			
REV	DATE	DESCRIPTION	BY

DOWL
8410 154th Avenue NE, #120
Redmond, Washington 98052
425-869-2670

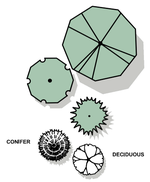
EASTVIEW CORPORATE PLAZA
14710 & 14725 SE 36TH STREET

ACCESSORY PARKING LOT
SITE PLAN B

PROJECT	2052.15072
DATE	2/8/2021

SHEET 5 OF 29

SITE LANDSCAPE LEGEND



TREES

ITEM	SIZE	QTY.
ACER CAMPESTRE HEDGE MAPLE	2" CAL. / B&B AS SHOWN	7
ACER GRISEUM PAPERBARK MAPLE	2" CAL. / B&B AS SHOWN	4
THUJA PLICATA 'EXCELSA' WESTERN RED CEDAR	6' HT. / B&B AS SHOWN	3
EXISTING TREE TO REMAIN REFER TO SURVEY FOR DBH INFO.	VARIES	

SHRUBS & ACCENTS

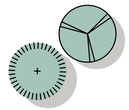
ITEM	SIZE	QTY.
SPIRAEA JAPONICA 'MAGIC CARPET' MAGIC CARPET SPIRAEA	1 GAL. 2'-6" O.C.	42
ROSMARINUS OFFICINALIS 'TUSCAN BLUE' ARP ROSEMARY	2 GAL. 3'-0" O.C.	43
VACCINIUM OVATUM EVERGREEN HUCKLEBERRY	2 GAL. 4'-0" O.C.	46

GROUNDCOVERS

ITEM	SIZE	QTY.
MAHONIA NERVOSA CREEPING OREGON GRAPE	1 GAL. 3'-0" O.C.	3,987 SF 510 PLANTS

MITIGATION / RESTORATION LEGEND

1,694 SF OF MITIGATION AREA @ MINIMUM 1:1 REPLACEMENT



TREES

ITEM	SIZE	QTY.
PSEUDOTSUGA MENZESII DOUGLAS FIR	4' HT / B&B 10'-0" O.C.	7
TSUGA HETEROPHYLLA WESTERN HEMLOCK	4' HT / B&B 10'-0" O.C.	7

SHRUBS & ACCENTS

ITEM	SIZE	QTY.
OEMLERIA CERASIFORMIS INDIAN PLUM	1 GAL. 6'-0" O.C.	11
SYMPHORICARPOS ALBA WHITE SNOWBERRY	1 GAL. 4'-0" O.C.	51
ROSA NOOTKANA NOOTKA ROSE	1 GAL. 5'-0" O.C.	37
CORYLUS CORNUTA BEAKED HAZELNUT	1 GAL. 5'-0" O.C.	22
HOLODISCUS DICOLOR OCEANSPRAY	1 GAL. 5'-0" O.C.	10
VACCINIUM OVATUM EVERGREEN HUCKLEBERRY	1 GAL. 4'-0" O.C.	80
RUBUS PARVIFLORUS THIMBLEBERRY	1 GAL. 4'-0" O.C.	13
SAMBUCUS RACEMOSA RED ELDERBERRY	1 GAL. 5'-0" O.C.	9
PLYSTICHUM MUNITUM SWORD FERN	1 GAL. 4'-0" O.C.	28

GROUNDCOVERS

ITEM	SIZE	QTY.
MAHONIA NERVOSA CREEPING OREGON GRAPE	1 GAL. 3'-0" O.C.	2,867 SF 265 PLANTS
GAULTHERIA SHALLON SALAL	1 GAL. 3'-0" O.C.	842 SF 108 PLANTS

REVISIONS			
REV	DATE	DESCRIPTION	BY

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WWW.DOWL.COM
8410 154th Avenue NE, #120
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425-869-2670

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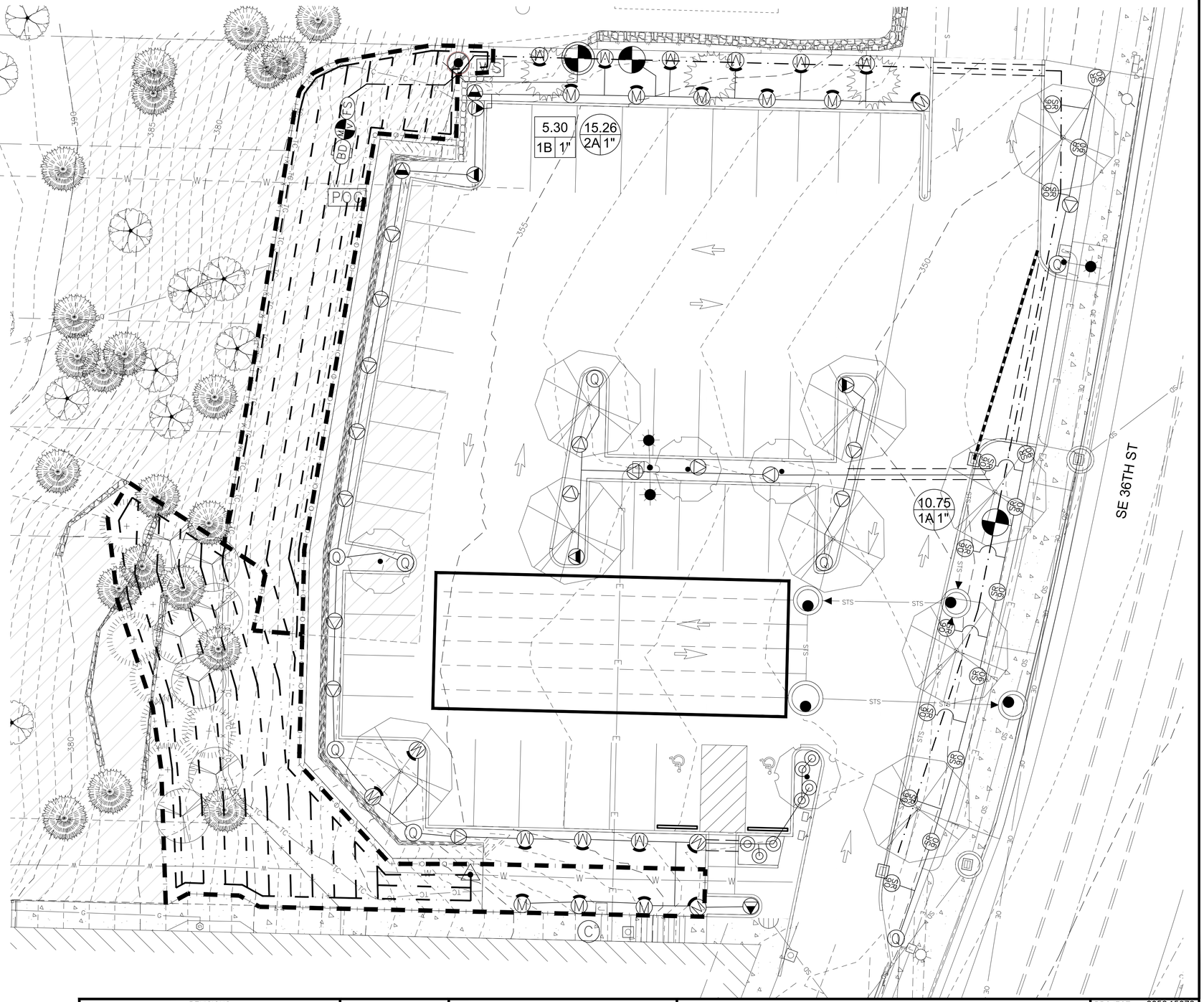
EASTVIEW CORPORATE PLAZA
14710 & 14725 SE 36TH STREET

ACCESSORY PARKING LOT
LANDSCAPE PLAN
PLANTING

PROJECT	2052.15072
DATE	1/29/2021

SHEET 26 OF 30



LANDSCAPE IRRIGATION LEGEND

SYMBOL	NOZZLE & SPRAY BODY	GALLONS PER MINUTE			P.S.I.	RADIUS
	MP ROTATOR ON PRS30 SPRAY HEAD	360°	210°-270°	90°-210°		
R M / R C K / A Y B / BR	HUNTER MP1000	OLIVE = 0.65	LT BLUE = 0.48	MAROON = 0.37	30	12'
	HUNTER MP2000	RED = 1.27	GREEN = 0.95	BLACK = 0.74	30	17'
	HUNTER MP3000	GRAY = 3.15	YELLOW = 2.37	BLUE = 1.84	30	27'
	HUNTER MP3500			LT BROWN = 2.84	30	33'
LCP / RCP	HUNTER MPLCS515, MPRCS515	LEFT STRIP: IVORY RIGHT STRIP: COPPER = 0.19			30	4'x14'
	HUNTER MPSS530	SIDE STRIP: BROWN = 0.38			30	4'x14'
Q	HUNTER MPCORNER	45°-105°: TURQUISE = 0.39			30	12'
SR	HUNTER SHORT RANGE MP800SR-90	90°-210°: ORANGE = 0.37			30	8'
SR	HUNTER SHORT RANGE MP800SR-360	360°: LIME GREEN = 0.63			30	8'

MP ROTATOR NOTE:
INSTALL 6" (-06) POP-UP HEADS IN AREAS OF CAR BUMPER OVERHANGS.

FIXED BUBBLERS	GPM	P.S.I.	RADIUS
HUNTER BUBBLER PCN-50 ON PROS-00 SHRUB ADAPTER	0.50	30	2'-4'

ROOT ZONE WATERING SYSTEM
HUNTER RZWS-18-50: 18" LENGTH w/ PRE-INSTALLED 0.50 GPM BUBBLER NOZZLE.
INSTALL 2 PER TREE AS SHOWN ON PLAN.

MAJOR SYSTEM COMPONENTS

POC — POINT OF CONNECTION:

WM — DISC METER: EXISTING (SIZE TO BE DETERMINED)
BD — BACKFLOW DEVICE: 1.5" WILKINS 350.
M — MASTER VALVE: 1.5" HUNTER ICV-151G-FS-AS-ADJ (SET TO NORMALLY CLOSED)
FS — FLOW SENSOR: 1.5" HUNTER FLOW-CLIK w FCT-150 SENSOR BODY

POINT OF CONNECTION NOTES:
- METER IS EXISTING - SIZE TO BE DETERMINED IN THE FIELD. SYSTEM HAS BEEN DESIGNED TO A MAXIMUM 1.5" DIAMETER PIPE SIZE.
- TAP EXISTING WATER SERVICE LINE AND INSTALL BACKFLOW DEVICE, MASTER VALVE, FLOW SENSOR AND QUICK COUPLER ABOVE PROPOSED RETAINING WALL AS SHOWN.
- WIRE MASTER VALVE AND FLOW SENSOR TO CONTROLLER LOCATION AND CONNECT TO CONTROLLER MASTER VALVE & SENSOR PORTS.

C — CONVENTIONAL CONTROLLER:
HUNTER I-CORE, MODEL IC-600-M: 6 STATION WALL MOUNTED CONTROLLER IN METAL CABINET. LOCATE CONTROLLER ON EXTERIOR BUILDING WALL. CONFIRM SIGNAL STRENGTH WITH SOLAR SYNC WEATHER SENSOR PRIOR TO PLACEMENT.

WS — WEATHER SENSOR:
HUNTER SOLAR SYNC: MODEL WSS-SEN. INSTALL WIRELESS SENSOR IN LANDSCAPE AS SHOWN, ON GALVANIZED METAL POLE, MINIMUM 10' ABOVE FINISH GRADE. POLE LENGTH SHALL ACCOUNT FOR 18" REQUIRED FOOTING.

25.00 / 1A 2" — SPRAY ZONE FLOW TOTAL IN GALLONS PER MINUTE
SPRAY ZONE NUMBER AND CONTROLLER PROGRAM / VALVE SIZE

SPRAY ZONE VALVE
PRESSURE REGULATING ELECTRIC REMOTE CONTROL VALVE.
ADJUST PRESSURE REGULATING DIAL AT VALVE TO 50 PSI FOR ALL ZONES
HUNTER 1" VALVE (MODEL: ICV-101G-FS-AS-ADJ)
HUNTER 1.5" VALVE (MODEL: ICV-151G-FS-AS-ADJ)

QUICK COUPLING VALVE, KEY & SWIVEL
HUNTER 3/4" QUICK COUPLER= HQ-33DLRC KEY= HK-33 SWIVEL= HS-0)

TWO-PIECE BRONZE ISOLATION VALVE
APOLLO MODEL: 32-(LINE SIZE)-27

PIPE, SLEEVING & CHECK VALVE

1.5" MAINLINE - SCHEDULE 40 PVC (0-30 GPM)

1" LATERAL - CLASS 200 PVC (0-16.0 GPM)

1.5" LATERAL - CLASS 200 PVC (16.0-30 GPM)

UNDERPAVEMENT SLEEVE
4" DIAMETER SCHEDULE 40 PVC FOR MAINLINE AND LATERALS
2" DIAMETER SCHEDULE 40 PVC FOR COMMUNICATION WIRE
EXTEND SLEEVES 18" INTO LANDSCAPE PLANTER ON BOTH SIDES OF CROSSING.

CV — KING BROS. IN LINE SPRING CHECK VALVE (MODEL # BPC-(LINE SIZE)-S
LOCATE AS NECESSARY TO AVOID LOW HEAD DRAINAGE

DRIP SYSTEM COMPONENTS

DRIP TUBING:
MFG: HUNTER MODEL: TWPE-700-(COIL LENGTH).
STAKE TUBING @ 3' O.C. AND BURY TUBING 1" BELOW FINISH SOIL GRADES
TOTAL SYSTEM RUN = 1,285 LF / COIL LENGTHS: (1) 1,000' (-)500' (1) 250' & (1) 100'
FLOW RATE: 0.5 GPH EMITTER HUNTER HE-050-S-(100)
INSTALL ONE (1) EMITTER PER SHRUB AND TWO (2) EMITTERS PER TREE.

24.75 / 2B 1" — DRIP ZONE FLOW TOTAL IN GALLONS PER MINUTE
DRIP ZONE NUMBER AND CONTROLLER PROGRAM / VALVE SIZE

DRIP ZONE VALVE:
PLASTIC VALVE: HUNTER ICV-101G-FG-AS-ADJ
PLASTIC FILTER: AMIAD 1" COMPACT w/ 80 MICRON STAINLESS SCREEN

PIPE TRANSITION POINT:
PVC LATERAL TO DRIP TUBING w/ RISER IN ROUND VALVE BOX.

END FLUSH CAP:
INSTALL IN 10" ROUND VALVE BOX. TYPICAL AT ALL ENDS OF DRIP LINE AS SHOWN ON PLAN.

N
10 0 10 20
SCALE IN FEET

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REV	DATE	DESCRIPTION	BY

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FINAL LANDSCAPE PLAN
IRRIGATION

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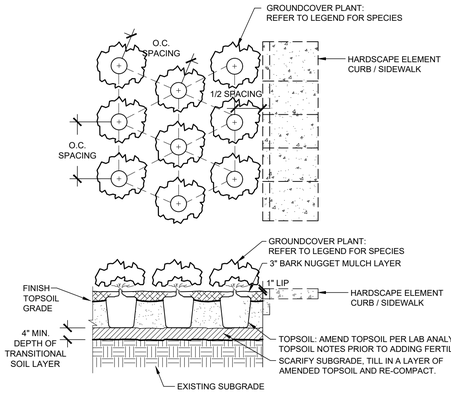
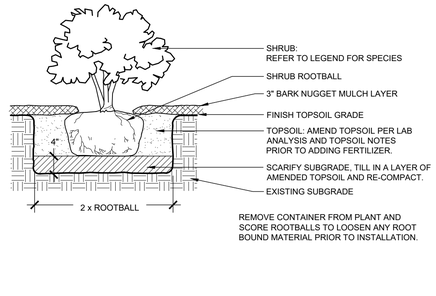
27 OF 30



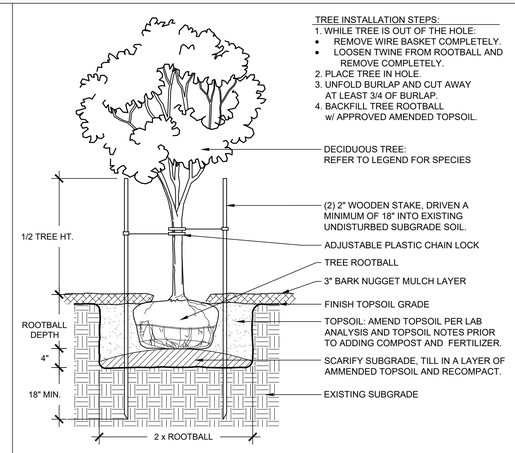
1 GROUNDCOVER SPACING / PLANTING

NOT TO SCALE



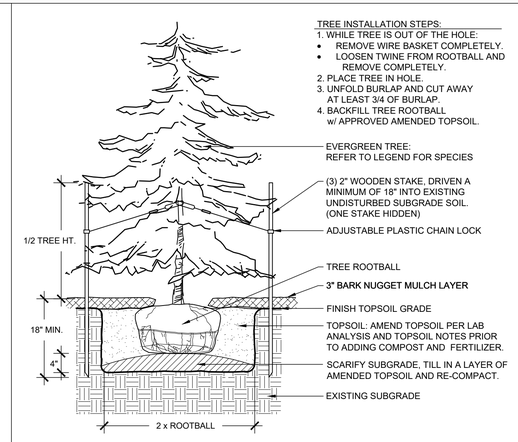
2 SHRUB PLANTING

NOT TO SCALE



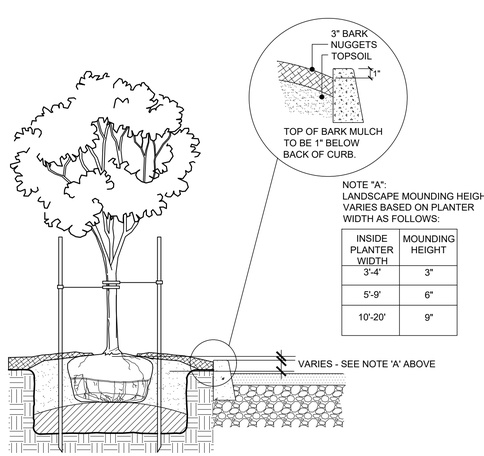
3 DECIDUOUS TREE PLANTING

NOT TO SCALE



4 EVERGREEN TREE PLANTING

NOT TO SCALE



5 SOIL MOUNDING: PARKING ISLANDS

NOT TO SCALE

THE LANDSCAPE CONTRACTOR WILL SUPPLY DOWL WITH THE FOLLOWING SUBMITTAL ITEMS PRIOR TO PURCHASE AND THE START OF WORK:

1. LIST OF PLANT SPECIES, QUANTITIES AND THE SUPPLYING NURSERY.
2. NURSERY PHOTOS OF ACTUAL PLANTS INTENDED FOR USE, PRIOR TO PURCHASE.
3. QUARRY PHOTOS OF ACTUAL BOULDERS INTENDED FOR USE, PRIOR TO PURCHASE.
4. PLASTIC TREE TIE AND WOODEN STAKE MATERIAL DATA SHEETS.
5. BARK NUGGET MULCH:
   - 1 QUART PHYSICAL MULCH SAMPLE FOR EACH MULCH SOURCE.
   - MATERIALS DATA SHEET FROM MULCH SUPPLIER.
6. COMPOST:
   - 1 QUART PHYSICAL SOIL SAMPLE FOR EACH COMPOST SOURCE.
   - LAB ANALYSIS FROM CERTIFIED SOIL TESTING LAB FOR (ALL) INTENDED STOCKPILE(S).
7. TOPSOIL:
   - 1 QUART PHYSICAL SOIL SAMPLE FOR EACH TOPSOIL SOURCE.
   - LAB ANALYSIS FROM CERTIFIED SOIL TESTING LAB FOR (ALL) INTENDED STOCKPILE(S). TEST SOIL(S) AS A LANDSCAPE CROP.
   - ANALYSIS MUST INCLUDE: MACRO AND MICRO-NUTRIENT LEVELS, PH, SOIL CLASSIFICATION: (% SAND, SILT, CLAY), AND SOILS LAB TECHNICIAN RECOMMENDATIONS FOR AMENDMENT.
8. GROWING MEDIUM:
   - 1 QUART PHYSICAL SOIL SAMPLE FOR EACH GROWING MEDIUM SOURCE.
   - LAB ANALYSIS FROM CERTIFIED SOIL TESTING LAB FOR (ALL) INTENDED STOCKPILE(S).
   - ANALYSIS MUST INCLUDE: MACRO AND MICRO-NUTRIENT LEVELS, PH, SOIL CLASSIFICATION: (% SAND, SILT, CLAY), AND SOILS LAB TECHNICIAN RECOMMENDATIONS FOR AMENDMENT.

ADDITIONAL SUBMITTAL ITEMS:

- SHIPPING TICKETS FOR TOPSOIL:
  PROVIDE TO DOWL AT THE COMPLETION OF TOPSOIL PLACEMENT.
- AS-BUILT DRAWINGS.
  PROVIDE TO DOWL AT THE COMPLETION OF INSTALLATION.

PLANTING SUBMITTAL ITEMS

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A NUMBER IN THE BASE BID TO FURNISH AND INSTALL IMPORTED AMENDED TOPSOIL AND COMPOST IN ALL LANDSCAPE PLANTING AREAS AS SPECIFIED BELOW. NOTE: THERE IS THE POTENTIAL FOR ONSITE SOIL STOCKPILE AND RE-USE, HOWEVER THE DEPTH AND SUITABILITY OF THE ORGANIC STRIPPINGS IS UNKNOWN AND PENDING A SOIL TESTING LAB EVALUATION. CONTRACTOR TO PROVIDE AN ALTERNATE NUMBER IN THE BID TO TEST, AMEND AND PLACE ONSITE RE-USE MATERIAL IN ALL LANDSCAPE AREAS.

   TOPSOIL PREPARATION AND DEPTH INFORMATION:
   - SCARIFY ALL PLANTING AREA SUBGRADES AND ESTABLISH A TRANSITIONAL TOPSOIL LAYER, AS DEFINED IN TOPSOIL NOTE #8.
   - REFER TO THE LANDSCAPE PLANTING DETAILS FOR A SECTION VIEW OF THE TRANSITIONAL TOPSOIL LAYER FOR EACH PLANT TYPE.
   - INSTALL AN ADDITIONAL 4" LAYER OF AMENDED TOPSOIL IN ALL SEEDED AREAS.
   - INSTALL AN ADDITIONAL 12" LAYER OF AMENDED TOPSOIL IN ALL PERIMETER AREAS.
   - INSTALL AN ADDITIONAL 18" LAYER OF AMENDED TOPSOIL IN ALL PARKING LOT PLANTER ISLANDS, PLUS ANY SOIL MOUNDING IDENTIFIED IN THE LANDSCAPE PLANTING DETAILS.
   - INSTALL A 1" LAYER OF COMPOST IN ALL PLANTING AREAS. TILL INTO TOPSOIL STOCKPILE PRIOR TO PLACEMENT.
   - INSTALL ADDITIONAL AMENDED TOPSOIL WHERE NECESSARY TO MEET ADJACENT HARDSCAPE PAVING OR LANDSCAPE GRADES.
2. UPON BEING AWARDED THE CONTRACT, THE GENERAL CONTRACTOR SHALL IDENTIFY THE VOLUME OF THE ONSITE ORGANIC STRIPPING LAYER. IF THE AMOUNT IS SUFFICIENT TO OFFSET A PORTION OF THE REQUIRED PROJECT TOPSOIL, THE CONTRACTOR SHALL COORDINATE THE TESTING OF THE ONSITE STOCKPILE BY A STATE LICENSED SOIL LABORATORY. IF THE MATERIAL IS DEEMED ACCEPTABLE FOR RE-USE, THE BID AND CONTRACT SHALL BE REVISED TO UTILIZE THE ONSITE MATERIAL, INCLUDING ANY AMENDMENT, SUBGRADE PREPARATION AND SOIL PLACEMENT.
3. IF THE ONSITE STOCKPILE IS INSUFFICIENT IN QUANTITY OR THE LAB ANALYSIS DETERMINES THE MATERIAL IS UNSUITABLE FOR RE-USE, IMPORT TOPSOIL WILL BE USED ON THE PROJECT AS REFLECTED IN THE BASE BID. THE CONTRACTOR SHALL SEND THE IMPORTED TOPSOIL SOURCE(S) TO A STATE CERTIFIED SOIL LABORATORY FOR THE SAME EVALUATION AND ANALYSIS AS THE EXISTING STOCKPILE. ALL SOIL MATERIAL SOURCES WILL BE ANALYZED FOR USE AS A LANDSCAPE CROP. AFTER RECEIVING RECOMMENDATIONS FROM THE SOILS LAB, FORWARD A COPY OF THE RESULTS AND RECOMMENDATIONS TO THE LANDSCAPE ARCHITECT AT WHICH TIME A DECISION WILL BE MADE TO APPROVE OR REJECT THE IMPORTED MATERIAL SOURCE(S).
4. REFER TO NOTES #6 AND #7 FOR MINIMUM SOIL TESTING REQUIREMENTS AND RECOMMENDATIONS.
5. IMPORTED TOPSOIL SHALL BE OBTAINED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP. DO NOT OBTAIN FROM BOGS OR MARSHES. IMPORTED TOPSOIL TO COMPLY WITH ASTM D 5268, WITH A PH RANGE OF 5.5 TO 7.0, FREE OF STONES ONE INCH (1") OR LARGER IN ANY DIMENSION, AND ANY OTHER EXTRANEOUS MATERIALS (ROCKS, STICKS, RUBBISH, SOD) HARMFUL TO PLANT GROWTH.
6. AMENDED IMPORTED TOPSOIL SHALL INCLUDE ALL NECESSARY FERTILIZER AND AMENDMENTS PER THE SOIL ANALYSIS RECOMMENDATIONS. TOPSOIL ANALYSIS SHALL STATE ORGANIC MATTER, INORGANIC MATTER, SOIL CLASSIFICATION (%SILT, CLAY AND SAND), DELETERIOUS MATERIAL, PH, MINERAL AND PLANT-NUTRIENT CONTENT. IN ADDITION THE REPORT SHALL ALSO STATE RECOMMENDED QUANTITIES (BY PERCENTAGE OF WEIGHT "I.E. 2 LBS OF 15-15-15 PER 1000 SF) OF NITROGEN, PHOSPHORUS AND POTASH, NUTRIENTS AND ANY LIMESTONE, ALUMINUM SULFATE, OR OTHER SOIL AMENDMENTS TO BE ADDED TO PRODUCE A SATISFACTORY AMENDED TOPSOIL. FURNISH REPORT AND RECOMMENDATIONS TO LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL 30 DAYS PRIOR TO MOBILIZATION.
7. IN ADDITION TO THE SOILS ANALYSIS RECOMMENDATIONS THE LANDSCAPE CONTRACTOR SHALL ADD A 1" LAYER OF APPROVED COMPOST MATERIAL THE AMENDED TOPSOIL. CONTRACTOR SHALL SUBMIT MATERIALS CUT SHEET OF COMPOST MATERIAL (CERTIFIED FINE COMPOSTED YARD DEBRIS) FROM THE SUPPLIER, TO LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL PRIOR TO PURCHASE.
8. PRIOR TO PLACEMENT OF TOPSOIL SCARIFY AND LOOSEN SUBGRADE OF PLANTING BED AREA TO A MINIMUM DEPTH OF 6 INCHES. REMOVE STONES LARGER THAN 1" IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH AND OTHER EXTRANEOUS MATERIALS. SPREAD A 4" LAYER OF AMENDED TOPSOIL MIXTURE AND WORK INTO TOP OF LOOSENED SUBGRADE. RE-COMPACT TO CREATE A TRANSITIONAL LAYER. PLACE REMAINING TOPSOIL IN 4" LIFTS AND LIGHTLY RE-COMPACT TO THE DEPTH REQUIRED TO MEET THICKNESS, GRADES AND ELEVATIONS SHOWN FOR EACH PLANTING AREA DEPTH. ADDITIONAL TOPSOIL MAY BE REQUIRED AFTER INITIAL PLACEMENT TO ADDRESS NATURAL SETTLEMENT.
9. THE CONTRACTOR SHALL SUBMIT TO THE LANDSCAPE ARCHITECT, SHIPPING TICKETS FOR IMPORTED TOP SOIL AND COMPOST MATERIAL, 60 DAYS PRIOR TO INSTALLATION FOR REVIEW AND WRITTEN APPROVAL.
10. TREAT ANY PLACED TOPSOIL AREAS BY HAND REMOVING WEEDS FROM THE SURFACE (IF APPLICABLE) AND TREAT WITH NECESSARY HERBICIDE TO PREVENT WEED GROWTH UNTIL THE START OF PLANTING OPERATIONS AND BARK PLACEMENT. DO NOT APPLY PRE-EMERGENTS IN AREAS OF EROSION CONTROL SEED MIX APPLICATION.

TOPSOIL NOTES

DESIGN

LANDSCAPE CONTRACTOR TO READ AND UNDERSTAND THE LANDSCAPE SET: INCLUDES PLANS, DETAILS AND NOTES, PRIOR TO FINALIZING BIDS. THE LANDSCAPE SET SHALL BE ADHERED TO THROUGHOUT THE CONSTRUCTION PROCESS.

QUANTITIES ARE INTENDED TO ASSIST CONTRACTOR IN EVALUATING THEIR OWN TAKE OFFS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BID QUANTITIES AS INDICATED ON THE PLANS. IF THERE IS A DISCREPANCY BETWEEN THE NUMBER IN THE PLANT LEGEND AND THE QUANTITY OF GRAPHIC SYMBOLS SHOWN, THE GRAPHIC SYMBOL QUANTITY SHALL GOVERN.

CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ALL PLANT MATERIAL SUBSTITUTIONS FROM THE LANDSCAPE ARCHITECT 90 DAYS PRIOR TO INSTALLATION. PLANT SUBSTITUTIONS WITHOUT PRIOR WRITTEN APPROVAL THAT DO NOT COMPLY WITH THE DRAWINGS AND SPECIFICATIONS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT AT NO COST TO THE OWNER. THESE ITEMS MAY BE REQUIRED TO BE REPLACED WITH PLANT MATERIALS THAT ARE IN COMPLIANCE WITH THE DRAWINGS.

ANY DEVIATIONS FROM THE APPROVED LANDSCAPE SET ARE TO BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.

CONTRACTOR SHALL BE RESPONSIBLE TO SECURE ALL PLANT MATERIAL IN THE SIZE SPECIFIED ON PLAN PRIOR TO INSTALLATION. IN THE EVENT THE PLANT MATERIAL IS NOT AVAILABLE IN THE SIZE SPECIFIED, THE CONTRACTOR SHALL SUBMIT TO THE OWNERS' REPRESENTATIVE, AND THE LANDSCAPE ARCHITECT, A WRITTEN ESTIMATE TO INCREASE PLANT MATERIAL (AND INSTALL) THE NEXT AVAILABLE CONTAINER SIZE PLANT (I.E. 4" POT TO ONE GALLON, 1.5" CALIPER TO 2"CALIPER).

PRIOR TO MOBILIZATION THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT, IN WRITING, IF THEY BELIEVE ANY OF THE PLANT MATERIAL IDENTIFIED ON THE PLAN MAY NOT BE SUITABLE FOR THE SITE OR MAY DIE. SUBSTITUTION REQUESTS MAY BE GRANTED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. IF NOTIFICATION IS NOT GIVEN TO THE LANDSCAPE ARCHITECT ALL PLANTING WHICH FAILS TO GROW (EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE AS DETERMINED BY THE OWNER, NEGLECT OR VANDALISM) SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

NOTIFY THE LANDSCAPE ARCHITECT IN WRITING, WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, POOR PLANTING SOIL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, PRIOR TO PLANTING.

ALL LANDSCAPE AREAS SHALL RECEIVE FULL IRRIGATION COVERAGE FOR ALL EXISTING AND PROPOSED PLANT MATERIAL, UNLESS NOTED OTHERWISE.

LANDSCAPE PLANTING AS-BUILT PLANS SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT UPON COMPLETION OF LANDSCAPE INSTALLATION. AS-BUILTS SHALL CONTAIN ALL MODIFICATIONS TO THE APPROVED DESIGN SET, INCLUDING SPECIES AND LOCATION, APPROVED SUBSTITUTIONS AND SIZES, AND ANY OTHER RELEVANT NOTES. CONTRACTOR MARKUPS WILL BE INCORPORATED INTO THE PROJECT DESIGN FILES FOR THE FINAL CLIENT AS-BUILT RECORD SET.

PREPARATION

PRIOR TO BEGINNING WORK, THE LANDSCAPE CONTRACTOR SHALL INSPECT THE SUBGRADE, GENERAL SITE CONDITIONS, VERIFY ELEVATIONS, UTILITY LOCATIONS, AND OBSERVE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. NOTIFY THE GENERAL CONTRACTOR OF ANY UNSATISFACTORY CONDITIONS, WORK SHALL NOT PROCEED UNTIL SUCH CONDITIONS HAVE BEEN CORRECTED AND ARE ACCEPTABLE TO THE LANDSCAPE CONTRACTOR.

ANY CEMENT TREATED LANDSCAPE AREAS SHALL BE EXCAVATED A MINIMUM OF 6" BELOW BOTTOM OF TREAT AREA DEPTH AND ALL MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER. BACKFILL WITH APPROVED MATERIAL AND RE-COMPACT TO THE ORIGINAL DESIGN SUBGRADE PRIOR TO CREATING THE TRANSITIONAL LAYER OR ADDING ANY REQUIRED AMENDED TOPSOIL. MINIMUM TOPSOIL LAYER FOR EACH PLANT TYPE SHALL MEET THE DEPTHS SPECIFIED IN THE TOPSOIL NOTES ON THIS SHEET.

CONTRACTOR TO VERIFY WITH OWNER AND UTILITY COMPANIES THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION. DETERMINE IN THE FIELD THE ACTUAL LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL CALL UTILITY PROTECTION SERVICE 72 HOURS PRIOR TO CONSTRUCTION.

CONTRACTOR TO REPORT ALL DAMAGES TO EXISTING CONDITIONS AND INCONSISTENCIES WITH PLANS TO THE LANDSCAPE ARCHITECT.

REMOVE ALL EXISTING INVASIVE PLANTS INCLUDING BUT NOT LIMITED TO IVY AND BLACKBERRY, ALL OTHER WEED SPECIES AND UNSUITABLE STRIPPINGS FROM PROJECT SITE PRIOR TO THE START OF SITE PLANTING ACTIVITIES OR THE ADDITION OF ORGANIC AMENDMENTS AND FERTILIZER.

ALL PLANTING AREAS SHALL BE CLEANED OF CONSTRUCTION DEBRIS (IE. CONCRETE, ROCK, RUBBLE, BUILDING MATERIALS, ETC) PRIOR TO CREATING THE TRANSITIONAL SUB-GRADE LAYER OF TOPSOIL.

CONTRACTOR TO FINE GRADE AND ROCK-HOUND ALL PLANTING AREAS PRIOR TO PLANTING, TO PROVIDE A SMOOTH AND CONTINUAL SURFACE, FREE OF IRREGULARITIES (BUMPS OR DEPRESSIONS) & EXTRANEOUS MATERIAL OR DEBRIS. ROCK DIAMETER NOT TO EXCEED 1" IN DIAMETER FOR TREE AND SHRUB AREAS. ROCK DIAMETER NOT TO EXCEED ONE-HALF INCH (1/2") FOR LAWN SEED AND SOD AREAS.

EXECUTION

CONTRACTOR SHALL BE RESPONSIBLE TO IMPLEMENT BEST MANAGEMENT PRACTICES TO STABILIZE ALL SLOPES 3:1 OR GREATER AND PREVENT EROSION OR MOVEMENT OF SOIL FROM SLOPES. THIS COULD INCLUDE, BUT NOT LIMITED TO, EROSION CONTROL FABRIC, STAKING, NETTING, AND STRAW WATTLES. SUBMIT METHOD OF SLOPE STABILIZATION TO CIVIL ENGINEER AND LANDSCAPE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL 30 DAYS PRIOR TO IMPLEMENTATION.

CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING TREES FROM DAMAGE DURING CONSTRUCTION. ALL TREE PROTECTION DEVICES TO BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE, AND MAINTAINED UNTIL FINAL LANDSCAPING. ALL TREE PROTECTION AREAS TO BE PROTECTED FROM SEDIMENTATION. ALL TREE PROTECTION FENCING TO BE INSPECTED DAILY, AND REPAIRED OR REPLACED AS NEEDED. NO PARKING, STORAGE OR OTHER CONSTRUCTION ACTIVITIES ARE TO OCCUR WITHIN TREE PROTECTION AREAS.

CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN LANDSCAPE AREAS AROUND ALL BUILDING STRUCTURES. DRAIN ALL LANDSCAPE AREAS TO INLET STRUCTURES OR PAVED SURFACES AS DEFINED IN THE CIVIL ENGINEERING GRADING SET (GRADING SHEET VIEWS, DETAILS AND NOTES).

WHERE GROUNDCOVER PLANTING OCCURS, PLANT TO ONE HALF PLANT SPACING FROM HARDSCAPE ELEMENT OR BED EDGE. REFER TO LANDSCAPE PLANTING DETAILS FOR ADDITIONAL INFORMATION.

COORDINATE PLANTING INSTALLATION WITH INSTALLATION OF THE UNDERGROUND IRRIGATION AND DRAINAGE SYSTEMS. PROJECT DESIGN ASSUMES HAND WATERING WILL BE SUFFICIENT FOR ESTABLISHMENT OF EROSION CONTROL SEED MIX AREAS. TREE/SHRUB AND LAWN AREA PLANTINGS WILL BE IRRIGATED BY A PERMANENT UNDERGROUND IRRIGATION SYSTEM.

PLANTING RESTRICTIONS - PLANTING IS NOT PERMITTED DURING THE FOLLOWING CONDITIONS, UNLESS OTHERWISE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT:

A. COLD WEATHER: LESS THAN 32 DEGREES FAHRENHEIT
B. HOT WEATHER: GREATER THAN 90 DEGREES FAHRENHEIT
C. WET WEATHER: SATURATED SOIL OR STANDING WATER
D. WINDY WEATHER: WIND VELOCITIES GREATER THAN 20 M.P.H.

LANDSCAPING SHALL BE INSTALLED IN CONFORMANCE WITH ANSI Z60.1 THE "AMERICAN STANDARD FOR NURSERY STOCK" AND THE ACCEPTED STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.

ANY EXISTING LANDSCAPE TO BE RETAINED THAT IS DISTURBED DURING CONSTRUCTION SHALL BE FULLY REMOVED, AREA RE-GRADED AND PLANTINGS REPLACED. ALL TIRE MARKS, INDENTATIONS OR OTHER DISTURBANCE TO BE REPAIRED.

MAINTENANCE / WARRANTY

LANDSCAPE MAINTENANCE AND WARRANTY PERIOD BEGINS IMMEDIATELY AFTER THE COMPLETION OF ALL PLANTING OPERATIONS AND ACKNOWLEDGEMENT THAT ALL PUNCH LIST ITEMS HAVE BEEN COMPLETED BY THE CONTRACTOR.

MAINTAIN TREES, SHRUBS, LAWNS AND OTHER PLANTS UNTIL FINAL ACCEPTANCE. WARRANTY ALL PLANTING FOR A PERIOD OF FIVE (5) YEARS FROM THE DATE OF INSTALLATION. INSTALLATION AND MAINTENANCE SHALL ADHERE TO CITY OF BELLEVUE STANDARDS FOR VIABILITY, REVIEW, ACCEPTANCE AND REPLACEMENT FOR THE DURATION OF THE PRESCRIBED ESTABLISHMENT PERIOD. ANY PLANT THAT IS DETERMINED DEAD, IN AN UNHEALTHY, UNSIGHTLY CONDITION, LOST ITS SHAPE DUE TO DEAD BRANCHES, OR OTHER SYMPTOMS OF POOR, NON-VIGOROUS GROWTH, SHALL BE REPLACED BY THE LANDSCAPE CONTRACTOR.

GENERAL NOTES - LANDSCAPE PLANTING PLAN

REVISIONS

REV	DATE	DESCRIPTION	BY

FOR REVIEW ONLY

DOWL
WWW.DOWL.COM
8410 154th Avenue NE, #120
Redmond, Washington 98052
425-869-2670

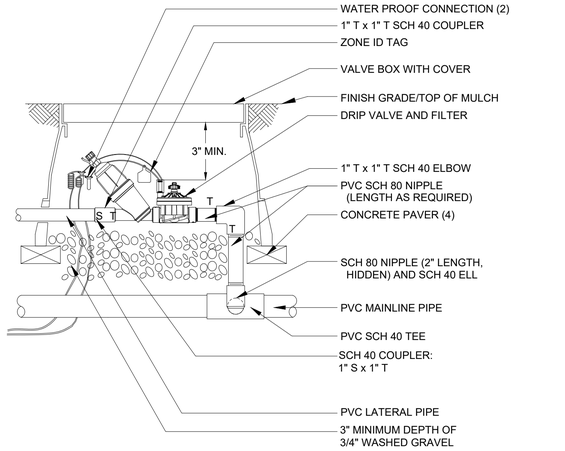
Xref C:\Visualization\Landscape Drive\AUTOCAD\STAMPS\CAD STAMPS\PEC - Washington - 02-10-2022-P.dwg

EASTVIEW CORPORATE PLAZA
14710 & 14725 SE 36TH STREET

ACCESSORY PARKING LOT
LANDSCAPE DETAILS
PLANTING

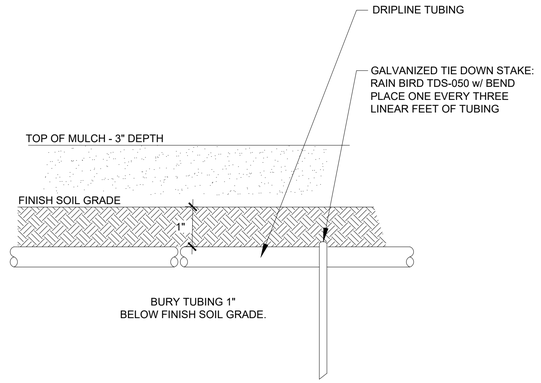
PROJECT	2052.15072
DATE	1/29/2021

SHEET 28 OF 30



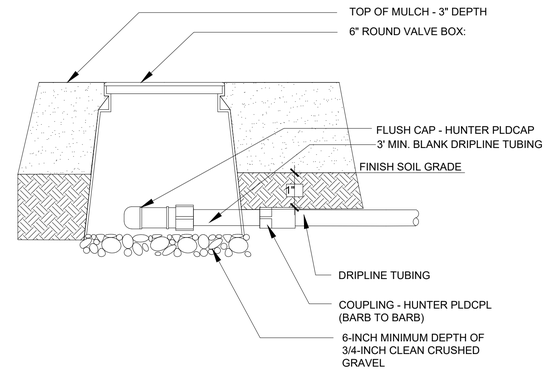
1 DRIP VALVE AND FILTER ASSEMBLY

NOT TO SCALE



2 DRIPLINE TUBE STAKING

NOT TO SCALE



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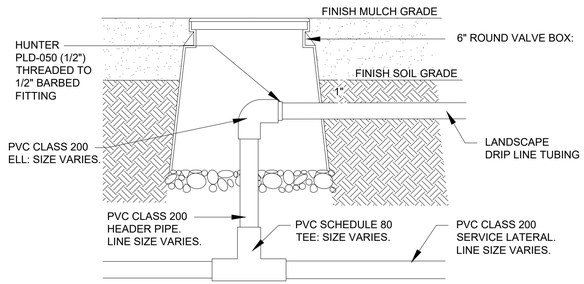
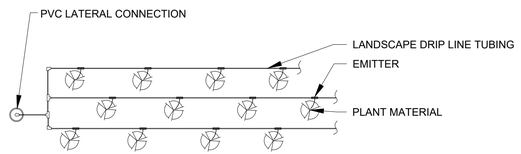
NOT TO SCALE



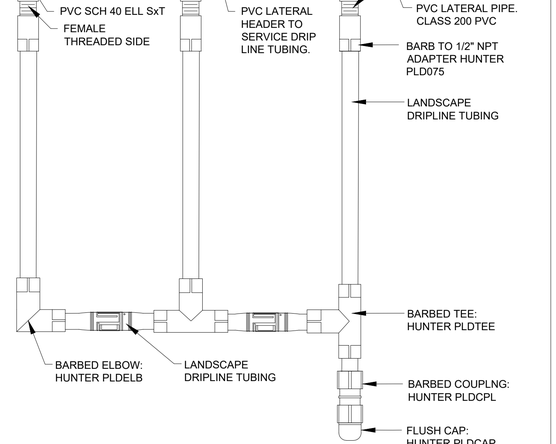
4 PVC CONNECTION - PARKING LOT ISLANDS

NOT TO SCALE



5 DRIPLINE PLACEMENT

NOT TO SCALE



6 DRIP TUBE LAYOUT

NOT TO SCALE

REVISIONS			
REV	DATE	DESCRIPTION	BY

FOR REVIEW ONLY

DOWL
WWW.DOWL.COM
8410 154th Avenue NE, #120
Redmond, Washington 98052
425-869-2670

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EASTVIEW CORPORATE PLAZA
14710 & 14725 SE 36TH STREET

ACCESSORY PARKING LOT
LANDSCAPE DETAILS
IRRIGATION

PROJECT	2052.15072
DATE	1/29/2021

SHEET

30 OF 30

Eastview Corporate Plaza

Critical Areas and Mitigation Report

Prepared by:

DOWL

8410 154th Avenue NE, #120
Redmond, WA 98052

November 2020

DOWL Project # 2052.15072.01

Table of Contents

APPENDICES

1.0 INTRODUCTION

1.1 Purpose

The Eastview Corporate Center project proposes to increase the available parking area on a site located at 17410 and 14725 SE 36th Street in the City of Bellevue, Washington to meet the needs of a multi-story office building and a neighboring law office.

At the request of the Swift Real Estate Partners, DOWL has prepared this Critical Areas Report and Mitigation Plan to identify and map critical areas on the site. This report also identifies potential impacts to critical areas that would result from the proposed project and proposes mitigation to unavoidable impacts. This report has been prepared to satisfy City of Bellevue reporting requirements defined in City of Bellevue Land Use Code (LUC) 20.25H.250 – *Critical Areas Report – Submittal Requirements*, and follows the outline presented in the Minimum Report Requirements section [20.25H.250 (B)] of the City's code.

The office building was constructed under King County Code, prior to the area being incorporated in the City of Bellevue. Under LUC 20.20.590(F) – *Minimum/Maximum Parking Requirements by Use,* the City requires a minimum of 4/1,000 Net Square Feet parking ratio. The listed net square footage of the building is 64,837 sf. In order to fully satisfy the City's parking requirements, the site requires a total of 260 stalls. The site currently has 203 spaces. To avoid the site being "under parked" per the code, additional parking stalls are proposed.

The project proposes to increase the number of parking spaces required for full occupancy where feasible. Approximately 9,807 square feet (sf) of new parking lot is proposed. Developable land on the site is limited by the presence of steep slopes on the southern approximately 2/3 of the property.

1.2 Site Description

The site (King County Parcel #2205500620) is located in Township 24 north, Range 10 east, Section 05, and is approximately 0.7 acres in size. The site currently consists of two single-family residential lots adjacent to an existing multi-story office building (**Appendix A, Figure 1**). The westernmost residential lot includes a building that houses a law office and the easternmost residential lot that is immediately adjacent to the multi-story office building contains the foundation of a residence that has been demolished. The site is bordered on the north by SE 36th Street, SE 37th Street to the south, and commercial properties to the east and west. Interstate 90 (I-90) is located north of the site, north of SE 36th Street.

2.0 IDENTIFICATION OF CRITICAL AREAS

As required under LUC 20.25H.250, DOWL has identified the critical areas and critical area buffers located on and immediately adjacent to the proposed project site.

Steep Slopes

LUC 20.25H.145(D) requires that qualified professionals conduct critical area investigations. Robinson-Noble, a professional firm specializing in hydrogeologic, geotechnical, and environmental consulting services, conducted a site investigation and identified two steep slope

critical areas on the site. A detailed description of their field methods and findings is presented in the geotechnical report dated October 23, 2020 (**Appendix D**). According to geotechnical report:

> "The ground surface within the site is generally steeply to moderately sloping down to the north with a flattened area at the location of the two previous residences in the northern third of the site. The east residence has been demolished down to the concrete footings. The steep slope critical area in the central third of the site terminates abruptly along a linear east-west line at the leveled area for the residences. The base of the steep slope is partially retained with a landscaping wall.
>
> The site contains a steep slope critical area in the southeastern corner of the site as well as crossing east to west in the central portion. From our field explorations, we observed that steep slope on site is generally between 40 and 50% inclination. It appears that the toe of the slope was cut and steepened to create a leveled area for the residences" (Robinson and Noble, 2020; **Appendix D)**.

LUC 20.25H.145 (G) requires that the modification of a steep slope critical area does not significantly impact habitat associated with species of local importance, or such habitat that could reasonably be expected to exist during the anticipated life of the proposed project.

This report addresses habitat and potential habitat that could reasonably be expected to exist during the anticipated life of the proposed project. A qualified biologist completed a Habitat Assessment on-site and identified the functions and values the steep slopes provide with regard to habitat.

3.0 REGULATIONS PROPOSED TO BE MODIFIED

Due to the presence of steep slopes on the project site, the proposed project is subject to the City of Bellevue LUC Section 20.25H.120. The proposed project seeks to modify several subsections of the LUC:

3.1 Geologic Hazard Area Structure Setbacks

LUC 20.25H.120 - *Designation of critical areas and buffers*, defines steep slope critical areas as slopes of 40 percent or more that have a rise of at least 10 feet and exceed 1,000 sf in the area.

Steep slopes identified on the project site are subject to the provisions of LUC 20.25H.120(C)(2) – Minimum *setback of structures.* For steep slopes, a minimum structure setback from the toe of slope shall be 75 feet. Structures are defined in LUC -20.50.046 – *S definitions*, as a combination of materials constructed and erected permanently on or under the ground or attached to something having a permanent location on or under the ground. Not included are residential fences, retaining walls less than 30 inches in height, rockeries less than 30 inches in height and similar improvements of a minor character. Parking lots are included in this definition and will be considered impacts to a critical area.

In a report dated October 23, 2020, a qualified geotechnical engineer requests a variance should be granted from the steep slope buffer and setback based on historic disturbance on the subject property, provided the site is stabilized as recommended in (their) report. This variance should be granted based on the findings of a certified Geotech (**Appendix D**).

Under LUC 20.25H.145, the City identifies parameters for modification approval within geologic hazard critical areas and critical areas buffers. These sections are provided below.

Modifications to geologic hazard critical areas and critical area buffers shall only be approved if the Director determines that the modification:

A. Will not increase the threat of the geological hazard to adjacent properties over conditions that would exist if the provisions of this part were not modified;

> "The erosion, landslide and seismic geologic hazards are addressed individually in the sub-sections below. In our opinion, the proposed modifications will not increase the threat of geologic hazards to adjacent properties, provided our recommendations in this report are followed" (Robinson and Noble, 2020; **Appendix D**).

B. Will not adversely impact other critical areas;

> "The erosion, landslide and seismic geologic hazards are addressed individually in the sub-sections below. In our opinion, the proposed modifications will not adversely impact other critical areas, provided our recommendations in this report are followed" (Robinson and Noble, 2020; **Appendix D**).

C. Is designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than would exist if the provisions of this part were not modified;

> **"**Table 4**:** Factor of Safety Results of Slope Stability Analysis presents the required City of Bellevue safety factors for analysis and design of modifications to steep slopes and buffers. In our opinion, the proposed modifications have been designed to mitigate the hazards to safety factor levels exceeding the required safety factors" (Robinson and Noble, 2020; **Appendix D**).

D. Is certified as safe as designed and under anticipated conditions by a qualified engineer or geologist, licensed in the state of Washington;

> "This geotechnical engineering report has been prepared by qualified professionals consisting of engineers licensed in the State of Washington. We have provided design recommendations in this report under anticipated conditions. In our opinion, provided the development follows the design recommendation in this report, the modifications to the site will meet or exceed the safety factor requirements of the City of Bellevue" (Robinson and Noble, 2020; **Appendix D**).

E. The applicant provides a geotechnical report prepared by a qualified professional demonstrating that modification of the critical area or critical area buffer will have no adverse impacts on stability of any adjacent slopes, and will not impact stability of any existing structures. Geotechnical reporting standards shall comply with requirements developed by the Director in City of Bellevue Submittal Requirements Sheet 25, Geotechnical Report and Stability Analysis Requirements, now or as hereafter amended;

> "This geotechnical engineering report has been prepared by qualified professionals consisting of engineers licensed in the State of Washington. In our opinion, this report demonstrates that modification of the critical area or critical area buffer will have no adverse impacts on stability of any adjacent slopes, and will not impact stability of any

existing structures, provided the develop follows the recommendations in this report" (Robinson and Noble, 2020; **Appendix D**).

F. Any modification complies with recommendations of the geotechnical support with respect to best management practices, construction techniques or other recommendations; and

"We have prepared this geotechnical engineering report with the expectation that any modifications will comply with the recommendations in this report. We should be retained to provide observation and consultation services during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, and to provide recommendations for design changes, should the conditions revealed during the work differ from those anticipated" (Robinson and Noble, 2020; **Appendix D**).

G. The proposed modification to the critical area or critical area buffer with any associated mitigation does not significantly impact habitat associated with species of local importance, or such habitat that could reasonably be expected to exist during the anticipated life of the development proposal if the area were regulated under this part. (Ord. 5680, 6-26-06, § 3)

A qualified biologist from DOWL surveyed the site for presence and habitat of species of local importance and performed a site-specific habitat assessment. No presence or habitat for species of local importance exists on the site. The habitat assessment is presented in **Section 4.0** of this report.

3.1.1 Decision Criteria

Slopes occur over a large portion of the undeveloped area of the subject property. Grading and stabilizing the Geologic Hazard Area is essential to the safe expansion of the parking area to meet City of Bellevue requirements for parking.

Per LUC 20.25H.255 – *Critical areas report – Decision criteria,* the Director may approve, or approve with modifications, the proposed critical areas modification where the applicant demonstrates:

1. The modifications and performance standards included in the proposal lead to levels of protection of critical area function and value at least as protective as application of the regulations and standards of this code;

2. Adequate resources to ensure completion of any required mitigation and monitoring efforts;

3. The modifications and performance standards included in the proposal are not detrimental to the functions and value of critical area and critical area buffers off-site; and

4. The resulting development is compatible with other uses and development the same land use district.

Based on the findings of the Geotech Report the proposed project is executable according to the plan presented in the Geotech Report and Site Designs. Conceptual mitigation and monitoring plans (see **Section 8**, below) have been developed to improve the quality of, and offset impacts to, the habitat associated with the on-site steep slope critical areas.

Performance standards (see **Section 7**, below) will ensure the project goals are met. LUC 20.40.490 - *Assurance devices* requires a performance bond to ensure monitoring and any contingency actions are satisfied. The purpose of the proposed parking lot is to bring the site into compliance with the City's requirements for office uses.

3.2 Significant Trees

LUC 20.50.046 defines a significant tree as a healthy evergreen or deciduous tree, 8 inches in diameter or greater, measured 4 feet above existing grade. The Director of the Development Services Department may authorize the exclusion of any tree which for reasons of health, age, or site development is not desirable to retain.

LUC 20.20.900 – *Tree retention and replacement*, defines the requirements for significant trees based on land use and existing site conditions.

LUC 20.20.900(D)(2)- *Site interior*, defines the priorities for significant tree retention for projects including those that change the surface area devoted to parking and circulation in the following subsections:

> *a. In areas of the site other than the required perimeter landscaping area, the applicant must retain at least 15 percent of the diameter inches of the significant trees existing in this area; provided, that alder and cottonwood trees' diameter inches shall be discounted by a factor of 0.5. In applying the requirement for retention of significant trees, the Director shall consider the preservation of the following types of significant trees a priority:*
>
> > *i. Healthy significant trees over 60 feet in height;*
> >
> > *ii. Significant trees which form a continuous canopy;*
> >
> > *iii. Significant trees which contribute to the character of the environment, and do not constitute a safety hazard;*
> >
> > *iv. Significant trees which provide winter wind protection or summer shade;*
> >
> > *v. Groups of significant trees which create a distinctive skyline feature; and*
> >
> > *vi. Significant trees in areas of steep slopes or adjacent to watercourses or wetlands.*

The proposed project would result in the removal of 18 significant trees adjacent to the proposed parking lot including four western hemlock (*Tsuga heterophylla*), seven Douglas fir (*Pseudotsuga menziesii),* one non-native cherry tree (*Prunus sp.*), and two Pacific madrones (*Arbutus menziesii*). To satisfy LUC 20.20.900(D)(2)(A), the project will retain greater than 15 percent of the diameter inches of the significant trees on-site. The plan proposes tree removal only when it is absolutely necessary for grading or safety reasons.

Additional mitigation/enhancement would be achieved by leaving the trees that are felled to accommodate the parking area, on the ground (where safe to do so) to provide additional structural habitat in the forest and along the hillside.

4.0 HABITAT ASSESSMENT

In order to satisfy the requirements of LUC 20.25H.145(G), a DOWL biologist conducted a habitat assessment in accordance with the Washington Department of Wildlife (WDFW) *Landscape Planning for Washington's Wildlife: Managing for Biodiversity in Developing Areas* (WDFW 2009) to document and evaluate the condition of the habitat located within the on-site steep slope critical areas. The assessment included both a desktop and field component.

Existing data sources that were reviewed for this report include, but were not limited to:

- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), online wetlands mapper
- USFWS Critical Habitat for Threatened and Endangered Species database,
- USFWS Information for Planning and Consultation (IPaC) maps
- WDFW Salmonscape Database
- WDFW Priority Habitat and Species Database
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) and Flood Insurance Studies
- Historic Aerial Imagery from Google Earth
- City of Bellevue Map Viewer GIS map

A steep slope critical area in the southern portion of the site and another crossing east to west in the central portion of the site were identified on the City of Bellevue Map Viewer GIS map (**Appendix A**, **Figure 2**).

Based on a review of the WDFW PHS database (**Appendix A, Figure 2**), no priority species or habitat are mapped on or within 300 feet of the subject property; no species of local importance have documented association or habitat on or adjacent to the subject property; and the closest biodiversity area and corridor (terrestrial habitat) is mapped approximately 3,000 feet south of the subject property.

Based on the information obtained during the desktop research, no wetland areas were anticipated within the study area; however, an on-site field investigation was conducted to confirm the non-wetland determination.

LUC 20.25H.150 designates habitat for species of local importance as critical habitat where such habitat is located outside of other critical areas. No habitat or occurrence for species of local importance is mapped or was identified on or in the vicinity of the project site. Forested hillside habitat exists on the undeveloped areas of the property.

LUC 20.25H.165(A) defines a Habitat Assessment, as an investigation of the site to evaluate the potential presence or absence of designated species of local importance or habitat for species of local importance.

Based on the results of the field investigation, DOWL confirmed that the project site does not include the presence of, or habitat that supports species of local importance, and does not support wetlands or streams. The site is characterized primarily by developed impervious surface and includes a multi-story office building and two single family residences: one demolished to its foundation. The remaining foundation is dominated by weedy species including lawn grasses, tall fescue (*Schedonorus arundinaceus), nipplewort (Lapsana communis)*, butterfly bush (*Buddleja sp.)*, Himalayan blackberry (*Rubus armeniacus),* and weeping birch (*Betula pendula)* seedlings.

An undeveloped, north facing hillside occupies the southern portion of the site and includes areas of steep slopes. The undeveloped area supports a mixed coniferous deciduous forest with a mostly closed canopy dominated by native trees including Douglas fir and western hemlock. A few tall black cottonwoods (*Populus trichocarpa*) emerge through the conifer dominated canopy. Other native trees present include Pacific madrone and big-leaf maple (*Acer macropyhllum*).

A dense carpet of English ivy (*Hedera helix*) covers much of the ground in the forested area and was observed climbing high into the sub-canopy throughout the site. The presence of this aggressive, non-native weed threatens the long-term viability of the on-site trees.

A few individuals of several native shrub species, including evergreen huckleberry (*Vaccinium ovatum*), western hazel (*Corylus cornuta*), and vine maple (*Acer circinatum*) occur on-site, but the shrub layer is dominated by non-native species including *Prunus* sp. (escaped ornamental cherry), English holly (*Ilex aquifolium*), Himalayan blackberry, big cherry laurel, and bamboo (*Bambusoideae sp*).There was very little herbaceous ground cover; and the on-site ground layer was almost 100 percent English ivy.

The surrounding area consists of developed residential lots with similar vegetation, roadways, and I-90. No habitat for species of local importance are mapped or observed on properties adjacent to the project site (**Appendix A, Figure 2**). The forested area on-site continues off-site to the west along SE 37th Street. The data forms used to conduct the habitat assessment conducted on 24 October 2020, are provided in **Appendix C**. The habitat assessment along with the results, are summarized in the following report sections**.**

The City has developed a site-scale model for analyzing habitat that involves the use of a scoring system. A functional assessment considers the relationship of the site to the landscape level habitat functions, then evaluates the quality of native habitats at the site (WDFW, 2009; **Appendix C**). The model was developed with the goal of assessing individual properties so that habitat could be given regulatory consideration during the permitting process.

The model assesses habitat features and parameters at three levels including property's habitat potential, landscape-level habitat functions, and site-specific or local habitat functions. Landscape-level parameters and habitat potential assessed in the model include amount of impervious surface, number of habitat types, proximity to critical areas, connectivity and size of habitat patches, and interspersion of habitat types. Site-level parameters assessed in the model include the size and type of native trees, percent vegetative cover, foliage height diversity, species richness, proximity of water, snags, and other unique habitat features.

Property's Habitat Potential

The project site is located in the City of Bellevue, a mostly developed, urban area. The subject property is adjacent to I-90, a major Interstate with high traffic volumes throughout the year. The

surrounding area is dominated by impervious surface (approximately 80 to 90 percent) with few natural features, parks, or biodiversity corridors and is designated as Zone B according to the Functional Assessment model.

Landscape-level Habitat Functions

The subject property is approximately 945 feet from the closest mapped wetland based on NWI and PHS. Sunset Creek and Eastgate park are approximately 2,720 feet southwest of the project site. The project site is located in an urban environment and is isolated from other open spaces or mapped critical areas.

The project site received a score of 5 points out of a possible 18+ for landscape-level habitat function. The project site has a low landscape level habitat function. However, the project site is located along the Pacific flyway and as such, has the potential to provide habitat for migratory birds.

Site-specific Habitat Function

The site is mostly developed and consists of impervious surfaces and degraded forested hillside. A dry mixed forested canopy is present on-site with an understory dominated by non-native vegetation. Foliage height diversity was estimated based on field observations. The understory provides marginal habitat due to the dominance of a few invasive species. The prevalence of non-native species, especially English ivy, to out compete native species and grow in monotypic patches is an obstacle to biodiversity, and as such limit's potential niches on-site. The functional assessment lists examples of habitat features including, but not limited to rockeries, downed wood at least 6 inches in diameter, water-holding features, and stumps at least 20 inches in diameter. The site has only one unique habitat feature including rockeries on the hillside.

The subject property received a score of 22 points out of a possible 38+ for site-specific habitat function. The site has the potential to support improved habitat in the form of diverse understory vegetation beneath the established canopy provided by the existing native trees. The site's habitat value for birds, insects, and small mammals could be increased by the addition of a diverse understory and large downed logs to provide habitat.

A summary of the critical areas results can be found in **Table 1**.

Table 1. Summary of Findings

Critical Areas					
Critical Area	**Area On-site**	**Structure Setback**	**Habitat Conditions**	**Grade**	**Comments**
Steep Slopes	10,753 sf (0.25 acres)	75 feet from Toe of Slope	Degraded	40-50%	Certified Geotech requests variance on setback per LUC 20.25H.145

5.0 ASSESSMENT OF PROBABLE CUMULATIVE IMPACTS

Project plans are to redevelop the portion of the site occupied by the residences and construct a new paved surface parking area and block retaining wall to provide additional parking for the adjacent multi-story office building (**Appendix F**). Unavoidable impacts to critical area steep slopes will occur as a result of the project. The project proposes 1,697 sf of permanent impacts and 1,632 sf of temporary impacts to invasive species-dominated steep slope critical areas that will be mitigated on-site.

Initial Impacts will include:

- Removal of 18 or fewer large trees near the proposed parking lot
- Grading of steep slope critical areas
- Removal of vegetation from hillside

Enhancement of the site will be accomplished by:

- Stabilizing steep slopes near the proposed parking lot
- replacing low-quality, weedy area with native habitat in the restoration area
- enhancing at 1.5:1 enhancement to impact ratio of currently weedy, mostly non-native dominated area
- leaving downed logs to create habitat features

Impacts will occur in areas of slope that provide only minor habitat value due to dense weedy vegetation growing in steep areas. The project will have a net benefit on the impacted critical areas and related habitat on-site.

6.0 CRITICAL AREA FUNCTIONS AND VALUES

The City of Bellevue protects steep slope critical areas primarily for safety; however, steep slopes can also provide habitat functions. The Geotech Report states, "provided the development follows the design recommendation in this report, the modifications to the site will meet or exceed the safety factor requirements of the City of Bellevue" (Robinson and Noble, 2020; **Appendix D**).

Under LUC 20.25H.145(G), the proposed modification to the steep slopes critical area and associated mitigation will not negatively impact habitat associated or that could reasonably be expected to exist during the anticipated life of the development proposal. The functions and values of habitat considered include water retention on the slope, presence of large trees and full canopy, biodiversity of vegetation, native vegetation cover in canopy, shrub layer, and ground layer, invasive species cover, and additional habitat features including but not limited to snags and logs.

6.1 Functional Lift Analysis

In compliance with 20.25H.250(B)(5), an analysis was performed to determine the level or protection of critical areas habitat functions and values currently provided by the current conditions, would be provided if no action was taken, and would be provided by the proposed project.

The City has created a functional assessment model to provide a standardized means of evaluating and assessing the potential, presence, function, and value of habitat on a given site. DOWL staff performed an assessment to document site conditions and to determine potential functional lift to the subject property.

The functional lift analysis is qualitative and utilizes the Site-specific Habitat Assessment Model (WFDW, 2009; **Appendix C**) to develop a scientifically valid characterization of existing conditions and habitat functions. The functional lift assessment was applied to compare different potential outcomes and determine the best course of action for the site. A summary of the results of the functional lift assessment model is presented in **Table 2**.

Table 2. Summary of Functional Lift Assessment

#	Function	Baseline	No Development Score	Potential Future (Year 5) Score	Net Change	
					No Dev	Future
3.1	Size of native trees on-site	4	4	4	-	-
3.2	Coniferous Component	3	4	4	+1	+1
3.3	Percent Cover					
	Ground layer	2	2	4	-	+2
	Shrub layer	2	2	4	-	+2
	Canopy	4	3	3	-1	-1
3.4	Vegetative vertical structural diversity (foliage height diversity)	2	2	2	-	-
3.5	Vegetative species richness	2	2	3	-	+1
3.6	Invasive species component	1	0	3	-1	+2
3.7	Proximity to year-round water	0	0	0	-	-
3.8	Snags	1	1	1	-	-
3.9	Other Habitat features	1	1	2	-	+1
	Total	22	21	30	-1	+8

Note: Landscape parameters not included in table because the property owner cannot impact or enhance property they do not own.

Current Conditions

The area of proposed impacts consists of an urban forest edge that provides minimal habitat value as the understory has the densest invasive vegetation cover on-site. The existing undeveloped area below the slopes is currently dominated by impervious surface and weedy vegetation providing no significant benefit to the ecosystem.

No Action

If no action is taken, the site will continue to be dominated by invasive species that are outcompeting native shrubs and herbaceous vegetation and threaten to kill native trees on the hillside. The dominance of English ivy and other non-native species results in a low potential for habitat as there is little biodiversity in the understory, effectively limiting potential niches on-site. If English ivy is allowed to kill native trees, the stability of the hillside could be in jeopardy of becoming unstable due to the increased erosional action that will result from loss of canopy cover and water retention.

If no action is taken, invasive weedy species will continue to outcompete native vegetation. The overall habitat will continue to decline, and the site will not offer any potential value to the surrounding ecosystem. The subject property presents a unique opportunity for mitigation and restoration into a diverse native forested community.

Proposed Development

The established dry mixed forest on-site provides a rare opportunity to restore a diverse and sustainable habitat in an otherwise urban environment. Invasive species removal and maintenance will protect the existing trees and allow the understory to be restored to a diverse native habitat. Additional habitat features such as the proposed downed woody debris will provide enhanced habitat value and reduce erosion. Preserving large trees will maintain site conditions until the proposed planting plan is able to get established.

Shade tolerant native species will help stabilize slopes, retain and detain water during the wet season, provide an abundance of ecological niches, and potentially support a wide variety of native terrestrial bird, insect, and small mammal species.

The proposed restoration area will support a light-tolerant native plant community that is currently not present on the subject property. Establishing this new plant community will result in a more densely vegetated slope that will eventually provide a visual and noise screen from the parking lot. Establishing this new habitat and community of native plants will further enhance the potential habitat by increasing potential niches, food opportunities, water retention, as well as, eventually reducing edge effect in the remaining steep slopes critical areas. Reconfiguring the slope to a safer grade will provide stabilization and, increase habitat functions and values through the life of the development.

Mitigation in the form of habitat enhancement will compensate for unavoidable impacts to existing low-quality habitat areas in the steep slope critical areas. The mitigation strategy proposes to remove invasive species, increase the number of native plant species to increase biodiversity, create a healthy understory, and retain as many trees as can safely be accomplished. Downed woody debris will remain on the hillside and in the forested area to create habitat features and reduce erosion. Once established the native vegetation's roots will stabilize the top layer of soil on the slopes, the vegetation will retain water, and reduce erosion.

7.0 PERFORMANCE STANDARDS

7.1 Performance Standards Associated with Steep Slopes

7.1.1 Uses and Development Allowed in the Critical Areas Overlay District

LUC 20.25H.050 Section B.1 states:

The seismic hazard areas, coal mine hazard areas, and habitat associated with species of local importance designated as critical areas by this part do not include absolute restrictions on development or activity. Instead, uses allowed under subsection A of this section may be undertaken in such critical areas, so long as the performance standards of LUC 20.25H.125 (Landslide hazards, steep slopes, and seismic hazards), LUC 20.25H.130 (coal mine hazards), or LUC 20,25H.160 (habitats associated with species of local importance), as applicable, are satisfied.

The proposed project satisfies LUC 20.25H.125, as described in the following section.

7.1.2 Performance Standards for Development Within Geologic Hazard Areas

The performance standards for development within geologic hazard areas including steep slope critical areas as well as associated setbacks and buffers are presented in LUC 20.25H.125. We reproduce LUC 20.25H.125 along with project-specific responses to each requirement.

In addition to generally applicable performance standards set forth in LUC 20.25H.055 and 20.25H.065, development within a landslide hazard or steep slope critical area or the critical area buffers of such hazards shall incorporate the following additional performance standards in design of the development, as applicable. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function.

A. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography; The proposed retaining wall minimizes alterations to the natural slope.

> "The surficial parking area is located to minimize required grading" (Robinson and Noble, 2020; **Appendix D**).

B. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;

> "The proposed development is sited on the leveled northern portion of the site to the maximum possible extent while still providing the intended function. This location best preserves the steep and moderate slopes on site while improving the stability of the steep slope critical area" (Robinson and Noble, 2020; **Appendix D**).

C. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

> "Slope stability analysis presented in Section 3.3.3 [See Geotech Report] demonstrates the proposed development will improve the stability of the steep slope critical area, reducing risk and mitigating the need for toe of slope setbacks" (Robinson and Noble, 2020; **Appendix D**).

D. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;

> "The proposed development utilizes a retaining wall to maintain the existing natural slope to the maximum possible extent. The proposed development would also improve the stability of existing unretained artificial slopes on the site" (Robinson and Noble, 2020; **Appendix D**).

E. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;

"The proposed development includes an infiltration system for stormwater management in the critical area setback below the toe of slope. Impervious surfaces have been located and designed to reduce surficial runoff, improving slope stability. To the maximum extent possible, development in steep slope critical areas and buffers above top of slope should avoid infiltration and utilize collection and conveyance to reduce hydrostatic pressure on the slope and improve stability" (Robinson and Noble, 2020; **Appendix D**).

F. Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criterion;

"Topographic modification on site will be minimized with the proposed retaining wall" (Robinson and Noble, 2020; **Appendix D**).

G. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible. Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;

"No building has been proposed. A retaining wall facing a cut is required to utilize the level area on the northern portion of the site for accessory surficial parking" (Robinson and Noble, 2020; **Appendix D**).

H. On slopes in excess of 40 percent, use of pole-type construction which conforms to the existing topography is required where feasible. If pole-type construction is not technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;

"Pole-type construction and tiering are not applicable to the proposed development" (Robinson and Noble, 2020; **Appendix D**).

I. On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and

"Not applicable. The proposed surficial parking is not located on the slope. The project requires a (retained) cut at the toe of the steep slope, but no fill" (Robinson and Noble, 2020; **Appendix D**).

J. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210. (Ord. 5680, 6-26-06, § 3)

A compensatory mitigation and restoration plan including monitoring and contingency activities has been prepared to satisfy the requirements of LUC 20.25H.210 – 225.

LUC 20.25H.160 requires additional performance standards or modifications if habitat associated with species of local importance will be impacted by a proposal. No habitat for species of local importance will be impacted by the proposal; therefore, no additional performance standards or modifications are required or proposed.

8.0 CONCEPTUAL MITIGATION PLAN

Reconfiguring the lower portions of the on-site steep slopes is necessary to achieve the number of parking spaces required under LUC 20.20.590(F) (**Appendix A**, **Figure 5**). In order to satisfy LUC 20.25H.145(G), restoration of temporary impacts and mitigation of permanent impacts to on-site habitat associated with the steep slope reconfiguration is proposed.

While it will result in temporary impacts to habitat, the reconfiguration of the on-site steep slopes provides the opportunity to improve habitat functions and values over existing degraded conditions. Existing invasive-dominated, low quality hillside habitat would be reconfigured and transformed into a higher quality and more structurally diverse forested community.

The degraded and disturbed on-site hillside would be restored at a greater than 1:1 replacement to loss ratio, increasing the complexity and improving the overall condition of the existing on-site habitat. Areas of temporary impacts include an area of steep slopes that will be regraded and backfilled to ensure slope stability

A planting plan would replace the degraded hillside with a vibrant native plant community, providing high quality habitat for wildlife species. A monitoring and maintenance plan would ensure that installed native plant species successfully grow into a forested plant community.

8.1 Mitigation Sequencing

LUC 20.25.215 - *Mitigation Sequencing* requires that when an alteration to a critical area is proposed, such alteration shall be avoided, minimized, or compensated for in the following order of preference:

A. Avoiding the impact altogether by not taking a certain action or parts of an action;

B. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;

The project design includes 40 parking stalls instead of the required 57. Steep slopes were avoided to the greatest extent practicable while still allowing the project to be feasible. A larger parking area would have required further impacts to steep slopes as the only remaining undeveloped land contains steep slopes.

The proposed impacts will affect areas of slope with the highest invasive species cover. The regrading of these areas will result in the removal of aggressive invasive species on-site.

Under current design topographic modification will be minimized with the proposed retaining wall (**Appendix D**).

C. Performing the following types of mitigation (listed in order of preference):

1. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

2. *Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or*

3. *Compensating for the impact by replacing, enhancing, or providing substitute resources or environments;*

The proposed mitigation plan proposes enhancing current site conditions and providing substitute resources in the form of improving habitat from its current degraded condition to a diverse and vibrant plant community.

D. *Monitoring the hazard or other required mitigation and taking remedial action when necessary.*

Compensation for unavoidable impacts would provide substitute resources in the form of mitigation, which would include monitoring and maintenance.

8.2 Mitigation Ratio

The proposed mitigation plan would offset impacts to habitat occupying the on-site steep slopes. As described in **Section 6.0** above, the primary functions and values provided by the habitat associated with the on-site steep slopes include/are water retention, presence of large trees and full canopy, biodiversity of vegetation, native vegetation cover in canopy, shrub layer, and ground layer, invasive species cover, and additional habitat features including but not limited to snags and logs. Stabilizing slopes, removal of invasive weeds, and planting native vegetation in the understory, is proposed in order to mitigate for loss of the above-mentioned functions and values.

Under the proposed plan:

- Trees will be replaced at greater than 1:1 ratio
- Permanent impacts to steep slopes will be mitigated at a ratio greater than 1:1
- Areas of temporary impacts will be restored in place at a 1:1 ratio. A restoration plan has been prepared to provide habitat enhancement

Proposed mitigation for unavoidable impacts includes (**Table 3**):

1) Create 2,645 sf of high-quality forested habitat at a >1:1 replacement ratio to off-set 1,632 sf of unavoidable impacts that would occur by reconfiguring the degraded and disturbed hillside

2) Replace significant trees removed at a >1:1 ratio

3) Stabilize slopes with engineered retaining wall (See Geotech Report; **Appendix D**)

4) Remove and manage invasive weeds on-site to reduce competition with non-native plant species through physical removal to the greatest extent practicable

5) Install shade tolerant native trees and shrubs on the flat portion of the degraded hillside to improve habitat diversity and improve functions

6) Remove garbage and trash from undeveloped forested area on-site

7) Install a temporary above ground drip tubing irrigation system to help plants get established

8) Leave downed trees as habitat features on flat portions of the planting area

Proposed restoration for unavoidable temporary impacts:

1) Restore 1,697 sf of degraded habitat at a 1:1 replacement ratio to off-set 1,697 sf of unavoidable impacts that would occur by reconfiguring the degraded and disturbed hillside between the proposed fence and retaining wall

2) Stabilize slopes with engineered retaining wall (See Geotech Report; **Appendix D**)

3) Augment the top 9-inches of backfill with structural fill soil blend.

4) Install sun tolerant native shrubs vegetation on the degraded hillside improve habitat diversity and improve functions using a site-specific approach to restoration

5) Remove and manage invasive weeds on-site to reduce competition with non-native plant species

6) Install a temporary above ground drip tubing irrigation system to help plants get established

7) Leave downed trees parallel to the retaining wall on flat portions of the planting area

Table 3 Impacts and Proposed Mitigation Strategy

Resource	Critical Area Impact Summary		Mitigation or Restoration Strategy	
	Proposed Impact	**Size of Impact**	**Mitigation/Restoration Description**	**Comments**
Habitat Associated with Steep Slopes	Grading and stabilizing slopes constructing, fence, retaining wall, and parking lot	1,697 sf (0.039 acres)	Habitat restoration including removing invasive species and planting native forested community.	Current conditions are severely degraded by dominance of invasive vegetation
Steep Slopes	Regrading slope to meet safety requirements including backfilling	1,632 sf (0.039 acres)	Stockpiling soils, removing invasive species, applying topsoil, and planting native trees and shrubs in place	Current conditions are severely degraded by dominance of invasive vegetation

Resource	Critical Area Impact Summary		Mitigation or Restoration Strategy	
	Proposed Impact	Size of Impact	Mitigation/Restoration Description	Comments
Significant Trees	Remove Trees	18 Trees (17 Native)	Plant native trees at >1:1 ratio. Leave downed wood in the forest and restoration area to create habitat.	Trees need to be removed to grade the slope

Other Potential Construction Impacts and Minimization Measures

Best Management Practices (BMPs) will be used as required by the City and detailed in the Temporary Erosion and Sediment Control Plan to be provided prior to construction.

8.3 Planting Plan

The planting plan is illustrated in **Appendix E**.

8.3.1 Planting Areas

The planting area will include two areas: the mitigation area and the restoration area. Both areas will be separated from the development by fencing associated with the parking area, to minimize potential disturbance to the plantings.

Mitigation Planting

The mitigation area will total 2,645 sf and will include the currently forested area east of the proposed impacts to critical areas, extending south to the top existing rockery, east to the stairway adjacent to the office building, and will continue along the fence to the staircase access (**Appendix A, Figure 5**). The mitigation area will be greater than 1.5:1 area of impacts to mitigation.

Restoration Planting

The restoration area will total 1,632 sf and will be planted on the regraded slope between the proposed fence and the top of the proposed retaining wall adjacent to the proposed parking lot (**Appendix A, Figure 5**). The restoration area will be planted at a 1:1 ratio of impacts to mitigation.

8.3.2 Replacing Significant Trees

Unavoidable impacts to significant trees would occur as a result of this project. A functional parking facility with safe, stable slopes requires coverage of the ground by hard surface and areas of grading to be replanted, which would result in unavoidable impacts to significant trees.

Significant trees removed from the site will be replaced at a 1:1 ratio or greater. Of the 89 significant trees, 74 percent will be retained totaling 71. The number of trees proposed for removal total is 18. The proposed project will retain 69 percent of significant trees and 78 percent of overall trees onsite.

Additional mitigation measures are proposed for removed trees in the form of leaving downed large woody debris in the forest and along the hillside (where safe to do so) in order to further enhance habitat and compensate for unavoidable loss of function and form provided by tress on-site.

8.3.3 Planting Specifications

The planting plan calls for installing native plant species in the compensatory mitigation planting area (**Appendix E**). The existing vegetation primarily consists of a coniferous canopy with an understory dominated by invasive weeds primarily English ivy. These planting areas will be re-vegetated from their existing degraded condition to provide higher quality vegetated communities.

The mitigation planting area will be transformed from a degraded condition to a high-quality forested community. The restoration area will be transformed from an invasive weed dominated zone to a robust shrub dominant plant community. Trees will not be proposed in this area due to concerns of the potential for tree roots to damage the retaining wall.

Planting details are summarized in **Appendix E**. The plant species proposed for installation in the mitigation areas consist of native plant species.

Fertilizer and Irrigation

A small amount of fertilizer will be added to the planting pits prior to installing each plant.

Construction Schedule

The mitigation project will begin upon receipt of permits and should be completed within the duration of the permit approval.

9.0 MONITORING AND CONTIGENCY PLAN

9.1 Monitoring Methodology

The monitoring program will be conducted for a period of five (5) years following completion of grading and planting activities to satisfy City of Bellevue requirements. A baseline assessment will be conducted at the end of the construction phase.

Under LUC 20.25H.220(D) – *Monitoring Program*, all mitigation projects shall be monitored for a period necessary to establish that performance standards have been met, but not for a period less than five years. The required monitoring period for a plan involving restoration shall be reduced to a period of not less than three years.

This information will be used as a baseline to compare subsequent monitoring events through year five to document milestones, successes, problems, and contingency actions of the compensatory mitigation. Photo documentation will provide a visual record of structural changes during the monitoring period. A sampling protocol will be established to estimate the numbers/densities of native trees and shrubs surviving within the mitigation area. Photo points will be established.

Field visits will be completed as follows:

a) At completion of construction of mitigation project (as-built report)

b) Thirty days after completion

c) Early in the first growing season following construction

d) Early in the second and third growing seasons following construction

e) Completion of year five

Monitoring will evaluate plant growth and establishment, and condition of habitat. If objectives are met at an earlier date, the applicant may request to end the monitoring phase earlier.

Mitigation monitoring reports shall include information sufficient to document and assess the degree of mitigation success or failure as defined by the performance standards contained in the approved mitigation plan. Information to be provided in annual monitoring reports shall include the following:

- Plant survivorship
- Estimated areal cover of native/invasive species
- Plant species present
- Any necessary remedial action to ensure the success of the next year's goals

9.2 Vegetation

Permanent vegetation sampling points or transects will be established in the planting areas to monitor the installed plants. The same monitoring points will be re-visited throughout the monitoring period. Percent areal cover of vegetation will be recorded. General plant health, percent survival, and plant species occurrence (including volunteer species) will also be recorded. Qualified personnel will conduct all monitoring.

Photo-points will be established from which photographs will be taken throughout the monitoring period. These photographs will document general appearance and progress in plant community establishment in the mitigation area. Review of the photos over time will provide a semi-quantitative representation of success of the mitigation plan.

Monitoring and photo-point locations will be recorded to keep a record of mitigation enhancement success.

9.3 Success Criteria

Success of plant establishment will be evaluated on the basis of both percent survival and percent cover of installed species. Planting success will be based on at least an 80 percent survival rate following each monitoring event. Successful plant establishment will also be met if there is at least a 85 percent areal cover of a combination of planted species and equivalent recruitment of native woody species by the end of the final-year monitoring period.

9.4 Mitigation Performance Standards

Vegetation in Planting Areas

The presence of English ivy is an obstacle to the continued success of native plants on the subject property. Site-specific performance standards must be maintained.

Post-Construction

- Eliminate invasive species, especially *H. helix* to the greatest extent practicable without impacting steep slopes
- Install native trees and shrubs in the Mitigation and Restoration Areas during an appropriate planting time and develop a baseline report within 30 days of completion of plantings
- Install above ground drip tubing irrigation outside of areas of steep slopes
- Establish photo-points and monitoring protocols

First year

- 100 percent plant survivorship. Any tree or shrub mortality will be replaced by the contractor to ensure native vegetation is established
- Document and eliminate English ivy (*Hedera helix*) in the planting area

Subsequent Monitoring Years

- 80 percent survival rate following each monitoring event
- 85 percent areal cover of a combination of planted species and equivalent recruitment of native woody species by the end of the final-year monitoring period
- Invasive species cover is less than 20 percent area cover

9.5 Maintenance (M) and Contingency (C)

Established performance standards for the project will be compared to the monitoring results in order to judge the success of the mitigation plan. Contingency measures will include the items listed below and will be implemented if these performance standards are not met. Maintenance and remedial action on the site will be implemented immediately upon completion of the monitoring event (unless otherwise specifically indicated below).

Steep Slopes Compensatory Restoration

- Replace dead plants with the same species or a substitute species that meets the goals and objectives of the plan. (C)
- Re-plant areas after reason for failure has been identified (e.g., moisture regime, poor plant stock, disease, shade/sun conditions, wildlife damage, etc.). (C)
- Remove/control weedy or exotic invasive plants (e.g., English Ivy, Himalayan blackberry etc.) by manual or chemical means approved by City of Bellevue. Use of herbicides or pesticides within the planting area would only be implemented if other measures failed or were considered unlikely to be successful. (C & M)

10.0 COST ESTIMATE

10.1 Cost Estimate

A cost estimate will be determined following the completion of an estimate from a contractor. The cost estimate will include the estimated price of plant stock, invasive species removal, plant installation, monitoring, and contingency.

10.2 Performance Bond

The City may require or allow a performance or maintenance assurance device when the City determines the device is necessary to assure that all work or actions required by a permit or approval are satisfactorily completed in accordance with approved plans, specifications, requirements, conditions, regulations, and policies per LUC 20.40.490 - *Assurance devices*.

To determine the amount of the financial guarantee, an estimate will be prepared once an estimate from a contractor has been provided detailing the work to be accomplished and the cost thereof. The estimate is based on current costs. City of Bellevue requires a performance assurance at 150 percent of the total cost estimate of the mitigation project to allow for inflation and administration expenses should the City have to complete the work.

11.0 ADDITIONAL INFORMATION

Additional provisions required by the City under LUC 20.25H.135 include:

A. Erosion and Sediment Control Plan

B. Drainage Plan

C. Monitoring Surface Waters.

DOWL has prepared the above-mentioned reports to be submitted under separate cover.

12.0 CONCLUSIONS

Based on the results of the field investigations, the 0.7-acre subject property was determined to contain steep slopes critical areas by a certified Geotech. A certified Geotech has requested a variance for steep slopes buffer and setback (**Appendix D**). A habitat assessment was performed by DOWL staff and determined no species of local importance or associated habitat exists on or around the subject property. The site contains degraded habitat is dominated by a few non-native urban plant species.

The site currently consists of two lots developed with two single family residences adjacent to an existing multi-story office building. One of the two residences has been demolished down to the foundation. The building was built prior to the area being incorporated in the City of Bellevue so it was built per King County Code.

The proposed plan would bring the subject property closer to City of Bellevue code for parking lots as defined in 20.20.590. The plan would use the area previously occupied by the now demolished single family residence areas around the existing office building, and as little of the steep slope critical areas as practicable. Unavoidable impacts to steep slope critical areas will be mitigated through implementation of a compensatory mitigation plan. A total of 18 significant trees will also be removed.

The mitigation plan proposes to enhance degraded areas dominated by invasive species, primarily English ivy, into a diverse native community. A detailed planting plan is provided in

Appendix E. The mitigation plan includes a functional lift analysis, monitoring and mitigation, performance bond, and contingency plan in accordance with City of Bellevue requirements.

13.0 REFERENCE

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Geotechnical Engineering Report

Eastview Corporate Plaza Accessory Parking Lot

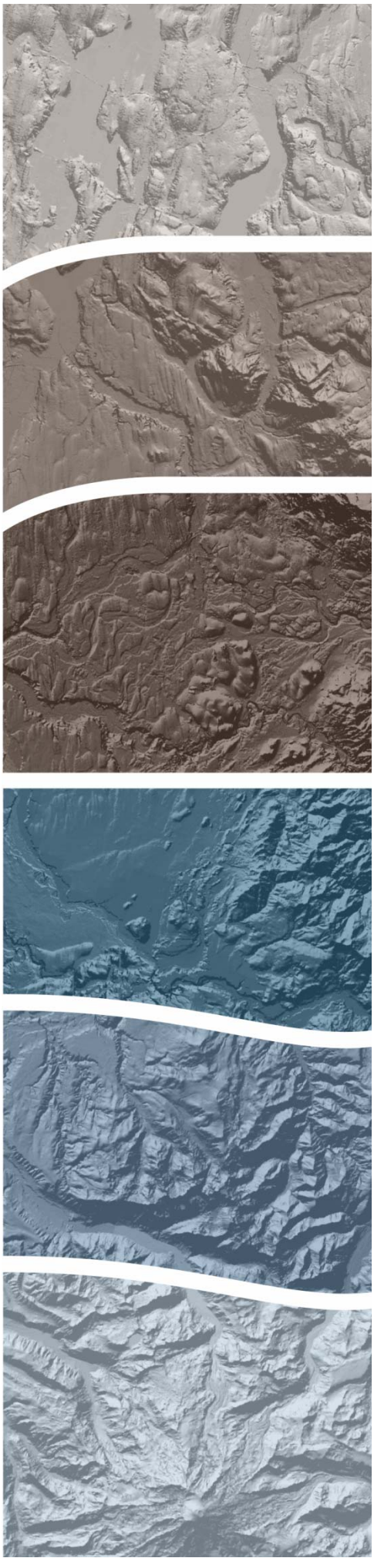
14710 & 14725 SE 36th Street

Bellevue, Washington

Prepared for:

Crestwood Corporate Plaza Partners
c/o Mr. Rob Phelps

RN File No. 3168-001B • October 23, 2020



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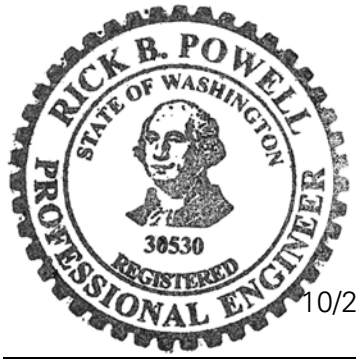

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Cover sheet graphic shows western Washington geomorphology as a hillshade from Mount Rainier to the Seattle metropolitan area. Image is derived from a compilation of Washington State DNR LIDAR surveys obtained from the Washington Lidar Portal: http://lidarportal.dnr.wa.gov/

1 INTRODUCTION

This report presents the results of our geotechnical engineering investigation at your proposed Eastview Corporate Plaza accessory parking lot project in the Bellevue area of King County, Washington. The site is located at 14710 and 14725 SE 36th Street, as shown on the Vicinity Map in **Figure 1**.

You have requested that we complete this report to evaluate subsurface conditions and provide recommendations for site development. For our use in preparing this report, DOWL presented us with a draft set of plans dated September 30, 2020. We have previously completed an infiltration letter for this project. We have also completed other previous geotechnical reports for the site as project plans evolved.

1.1 Project Description

The site consists of two lots developed with two single family residences adjacent to an existing 6-story office building. One of the two residences has been removed. Project plans are to redevelop the portion of the site occupied by the residences and construct a new paved surface parking area and block retaining wall to provide additional parking for the adjacent 6-story office building. The proposed block retaining wall will have a maximum height of approximately 12.5 feet. A steep slope exists on the site as shown on the site plan, presented as **Figure 2**.

1.2 Scope

The purpose of this study is to explore and characterize the subsurface conditions and present recommendations for site development. Our Infiltration Letter was later completed under a scope of services outlined in our Services Agreement dated January 14, 2020. This report update is completed as an additional service under the existing agreements.

2 SITE CONDITIONS

2.1 Geologic Setting

Most of the Puget Sound Region was affected by past intrusion of continental glaciation. The last period of glaciation, the Vashon Stade of the Fraser Glaciation, ended approximately 14,000 years ago. Many of the geomorphic features seen today are a result of scouring and overriding by glacial ice and sediment deposition related to glacial advance and retreat. During the Vashon Stade, areas of the Puget Sound region were overridden by over 3,000 feet of ice. Soil layers overridden by the ice sheet were compacted to a much greater extent than those that were not. Part of a typical glacial sequence within the area of the site includes the following soil deposits from newest to oldest:

Artificial Fill (af) – Fill material is often locally placed by human activities, consistency will depend on the source of the fill. The thickness and expanse of this material will be dependent on the extent of fill required to grade land to the desired elevations. Density of the fill will depend on earthwork activities and compaction efforts made during the placement of the material.

Recessional Outwash (Qvr) – These deposits were derived from the stagnating and receding Vashon glacier and consist mostly of stratified sand and gravel, but include unstratified ablation and melt-out deposits. Recessional deposits were not compacted by the glacier and are typically not as dense as those that were.

Vashon Till (Qvt) – The till is a non-sorted mixture of clay, sand, pebbles, cobbles and boulders, all in variable amounts. The till was deposited directly by the ice as it advanced over and eroded irregular surfaces of previously deposited formations and sediments. The till was well compacted by the advancing glacier and exhibits high strength and stability. Drainage is considered very poor in the till.

Advance Outwash (Qva) – The advance outwash typically is a thick section of mostly clean, pebbly sand with increasing amounts of gravel higher in the section. The advance outwash was placed by the advancing glaciers and was overridden and well compacted by the glacier.

Transitional Beds (Qtb) – The preglacial transitional beds are typically clay, silt and fine sand soils that were mostly deposited in lakes some distance from the ice front and in fluvial environments prior to the advance of the ice sheet. These beds typically grade up into the overlying advance outwash. They appear firm in outcrop and can become unstable in steep slopes because of high water content and jointing.

The geologic units for this area are mapped on the Geologic Map of Surficial Deposits in the Seattle 30' x 60' Quadrangle, Washington by James C. Yount, James P. Minard, and Glenn R. Dembroff (U.S. Geological Survey, 1993). The site is mapped as being underlain by a deposit of recessional outwash. Our site explorations encountered advance outwash and transitional bed deposits.

2.2 Seismic Setting

The site is mapped on the U.S. Quaternary Faults and Folds Database web application by the U.S. Geological Survey as located within the Seattle Fault Zone (SFZ). The SFZ is a series of shallow, crustal thrust faults that trend east-west from the Fall City area to the Hood Canal across the greater Seattle area. This is a class A fault, meaning there is sufficient evidence of fault displacement during the Quaternary Period for the fault to be considered active. The last known major earthquake on the SFZ occurred approximately 1,100 years ago, and has been associated with landslides, localized tsunamis, liquefaction, and up to 8 meters of ground uplift in the area of southern Bainbridge Island and Alki Point. Research from the area has shown at least 2 large (magnitude 7.0 to 7.5) earthquakes over the last 8,000 years, and up to three surface-rupturing earthquakes over the last 2,500 years. (Washington Department of Natural Resources, 2012-2013).

The nearest seismic feature is a strand approximately 400 feet to the south of the site. Fault locations are constrained by geophysical gravity anomalies, uplift of Tertiary-aged bedrock to the south of the faults, seismic reflection data, aeromagnetic studies and mapping of surface deformation (including LIDAR mapping), as well as field explorations of past surface ruptures (Washington Department of Natural Resources, 2012-2013).

2.3 Critical Areas Designations

The site is mapped by the City of Bellevue on the "Bellevue Map Viewer" GIS map as containing a steep slope critical area in the southern portion of the site and crossing east to west in the central portion of the site. A steep slope critical area is defined in the City of Bellevue Land Use Code (LUC) 20.25H.120(A)(2) as "slopes of 40 percent or more that have a rise of at least 10 feet and exceed 1,000 square feet in area." LUC 20.25H.120(B)(1)(b) and 20.25H.120(C)(2)(b) describes the top of slope buffer as 50 feet and the toe of slope setback as 75 feet. The buffer and setback are shown on **Figure 2**. The performance standards for development within geologic hazard areas including steep slope critical areas as well as associated setbacks and buffers are presented in LUC 20.25H.125 and are discussed further in **Section 3.3**.

2.4 Surface Conditions

The project site is approximately 0.7 acres in size and has maximum dimensions of approximately 215 feet in the north-south direction and 150 feet in the east-west direction. Access to the site is provided by SE 36th Street to the north. The site is bordered by SE 37th Street to the south, and commercial acreage to the east and west. A layout of the site is shown on the Site Plan in **Figure 2**.

The ground surface within the site is generally steeply to moderately sloping down to the north with a flattened area at the location of the two previous residences in the northern third of the site. The east residence has been demolished down to the concrete footings. The steep slope critical area in the central third of the site terminates abruptly along a linear east-west line at the leveled area for the residences. The base of the steep slope is partially retained with a landscaping wall. The southern two thirds of the site is vegetated mostly with small to medium sized trees with brush and shrubs.

We observed no indications of slope movement or movement-associated topography. We did not observe any indication of ground seepage. Conifer trees on the slope grow in a near-vertical orientation.

2.5 Field Explorations

We explored subsurface conditions within the site on February 9, 2017 and March 5, 2018, by drilling four borings with a track-mounted hollow stem auger drill rig. The borings were located on the east side of the site because of access constraints, and were drilled to depths of 16.5 to 46.5 feet below the ground surface. Samples were obtained from the borings at 2.5- to 5-foot intervals using the Standard Penetration Test. This test consists of driving a two-inch outside diameter split spoon sampler with a 140-pound hammer dropping 30 inches. The number of blows required for penetration of three 6-inch intervals was recorded. To determine the standard penetration number at that depth the number of blows required for the lower two intervals are summed. These numbers are then converted to a hammer energy transfer standard which is 60 percent, N_{60}. If the number of blows reached 50 before the sampler was driven through any 6-inch interval, the sampler was not driven further and the blow count is recorded as 50 for the actual penetration distance.

The borings were located in the field by an engineer from this firm who also examined the soils and geologic conditions encountered, and maintained logs of the borings. The approximate locations of the borings are shown on the Site Plan in **Figure 2**. The soils were visually classified in general accordance with the Unified Soil Classification System, a copy of which is presented as **Figure 3**. The logs of the borings are presented in **Figure 4** through **Figure 10**.

Additional explorations associated with infiltration testing are described in **Appendix C**. The locations of these additional explorations are shown on the Site Plan in Figure 2.

2.6 Laboratory Testing

We completed moisture content testing on selected samples from our explorations. The moisture contents are shown on the boring logs.

2.7 Subsurface Conditions

A brief description of the conditions encountered in our explorations is included below. For a more detailed description of the soils encountered, review the Boring Logs in **Figures 4** through **Figure 10**.

In Borings 1, 2 and 4 our explorations encountered a surficial layer of medium dense to very dense fine to medium sand with silt and varying amounts of gravel interpreted as advance outwash deposits. In Boring 1 this material extended to the depth explored. In Borings 2 and 4 this material was underlain by hard silt with sand lenses and trace gravel interpreted as transitional beds. In Boring 2 this material extended to the depths explored. In Boring 4 the transitional bed layer was underlain by very dense silty sand with gravel to the depth explored. Boring 3 encountered a surficial layer of medium dense silty sand with gravel interpreted as possible fill to a depth of about 4.5 feet. This was underlain by dense fine to medium sand with silt and varying amounts of gravel. Within this material we encountered occasional interbedded very stiff silt. This material was underlain by silty fine sand and trace gravel to the depth explored.

2.8 Hydrologic Conditions

Shallow groundwater seepage was not encountered. The hard and very dense transitional beds interpreted to underlie the site are considered poorly draining. During the wetter times of the year, we expect perched water conditions will occur as pockets of water on top of and within the sandier portions of the transitional bed layers. Perched water does not represent a regional groundwater "table" within the upper soil horizons. Volumes of perched groundwater vary depending upon the time of year and the upslope recharge conditions.

3 CONCLUSIONS AND RECOMMENDATIONS

3.1 Summary of Geotechnical Considerations

It is our opinion that the site can be engineered to a stable condition for the planned development. The localized steep slope appears to have been created through past grading activity in which the moderate slope was cut in the central portion of the site, creating a steep condition. The excavated material was then used to fill the site further to the north, creating a leveled area for the existing residences. In our opinion a variance should be granted from the steep slope buffer and setback, provided the site is stabilized as recommended in this report.

The underlying medium dense to very dense outwash deposits are capable of supporting the planned structure. We recommend that the foundations for the structure extend through any fill, topsoil, loose, or disturbed soils, and bear on the underlying medium dense or firmer, native outwash or on structural fill extending to these soils. Based on our site explorations, we anticipate these soils will generally be encountered at proposed footing depths. The block wall should be built in accordance with this report.

The City of Bellevue Municipal Code (LUC) 20.25H.145 presents parameters for modification approval within geologic hazard critical areas and critical area buffers. These sections are addressed below.

> *Modifications to geologic hazard critical areas and critical area buffers shall only be approved if the Director determines that the modification:*
>
> *A. Will not increase the threat of the geological hazard to adjacent properties over conditions that would exist if the provisions of this part were not modified;*
>
> > The erosion, landslide and seismic geologic hazards are addressed individually in the sub-sections below. In our opinion, the proposed modifications will not increase the threat of geologic hazards to adjacent properties, provided our recommendations in this report are followed.
>
> *B. Will not adversely impact other critical areas;*
>
> > The erosion, landslide and seismic geologic hazards are addressed individually in the sub-sections below. In our opinion, the proposed modifications will not adversely impact other critical areas, provided our recommendations in this report are followed.
>
> *C. Is designed so that the hazard to the project is eliminated or mitigated to a level equal to or less than would exist if the provisions of this part were not modified;*
>
> > Table 4: Factor of Safety Results of Slope Stability Analysis presents the required City of Bellevue safety factors for analysis and design of modifications to steep slopes and buffers. In our opinion, the proposed modifications have been designed to mitigate the hazards to safety factor levels exceeding the required safety factors.

D. Is certified as safe as designed and under anticipated conditions by a qualified engineer or geologist, licensed in the state of Washington;

This geotechnical engineering report has been prepared by qualified professionals consisting of engineers licensed in the State of Washington. We have provided design recommendations in this report under anticipated conditions. In our opinion, provided the development follows the design recommendation in this report, the modifications to the site will meet or exceed the safety factor requirements of the City of Bellevue.

E. The applicant provides a geotechnical report prepared by a qualified professional demonstrating that modification of the critical area or critical area buffer will have no adverse impacts on stability of any adjacent slopes, and will not impact stability of any existing structures. Geotechnical reporting standards shall comply with requirements developed by the Director in City of Bellevue Submittal Requirements Sheet 25, Geotechnical Report and Stability Analysis Requirements, now or as hereafter amended;

This geotechnical engineering report has been prepared by qualified professionals consisting of engineers licensed in the State of Washington. In our opinion, this report demonstrates that modification of the critical area or critical area buffer will have no adverse impacts on stability of any adjacent slopes, and will not impact stability of any existing structures, provided the develop follows the recommendations in this report.

F. Any modification complies with recommendations of the geotechnical support with respect to best management practices, construction techniques or other recommendations; and

We have prepared this geotechnical engineering report with the expectation that any modifications will comply with the recommendations in this report. We should be retained to provide observation and consultation services during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, and to provide recommendations for design changes, should the conditions revealed during the work differ from those anticipated.

G. The proposed modification to the critical area or critical area buffer with any associated mitigation does not significantly impact habitat associated with species of local importance, or such habitat that could reasonably be expected to exist during the anticipated life of the development proposal if the area were regulated under this part. (Ord. 5680, 6-26-06, § 3)

Geologic hazard areas are not defined by any association with any specific species or habitat. This geotechnical engineering report has been prepared by qualified professionals consisting of engineers licensed in the State of Washington. This geotechnical engineering report does not address impacts to habitat associated with species of local importance. That analysis is outside our area of expertise and would be counter to The American Society of Civil

Engineers (ASCE) established Code of Ethics. The second fundamental cannon in the ASCE Code of Ethics states '*Engineers shall perform services only in areas of their competence.'*

3.2 Seismic Engineering

3.2.1 Seismic Design

Seismic design for the 2015 International Building Code (IBC) is based on the mapped values for the risk-targeted maximum considered earthquake (MCE_R). Ground motion values in these maps include a probability of exceedance equal to 2% in 50 years, which corresponds to a 2,475-year return period. These mapped values have been prepared by the USGS in collaboration with the FEMA-funded Building Seismic Safety Council (BSSC) and the American Society of Civil Engineers (ASCE).

The mapped MCE_R spectral response accelerations are referred to as S_s for short periods (0.2 seconds) and S_1 for a 1 second period. IBC 2015 directs that correction factors be applied to these response spectra based on an evaluation of site specific subsurface conditions, referred to as the soil site class (defined in ASCE 7 Section 20.3). The corrected MCE_R parameters are referred to as S_{MS} and S_{M1}. IBC 2015 defines the design spectral acceleration parameters as two-thirds of the corrected parameters, resulting in the values of S_{DS} for short periods and S_{D1} for the one-second period.

Seismic design for geologic hazards including slope stability, liquefaction, seismic settlement, lateral spreading, and other seismic risks follow ASCE 7. The seismic design procedures in this standard are based on MCE_R peak ground acceleration (PGA) multiplied by a correction factor for site-specific amplification (F_{PGA}). This results in a site-modified peak ground acceleration (PGA_M). From the site risk category and design spectral response acceleration parameters S_{DS} and S_{D1}, the site is assigned a seismic design category (ASCE 7 section 11.6).

We obtained seismic design parameters for this site from the Structural Engineers Association of California Seismic Design Maps Tool (SEAOC). Input values based on our understanding of the proposed project and our interpretations of subsurface conditions (described in **Section 2.7**) are shown in **Table 1**, below. The output summary report from the SEAOC is included in this report as **Appendix A**, and the seismic design parameters are shown in **Table 2** below.

Table 1: Seismic Design Inputs

Seismic Design Maps Tool Inputs	Value
Site Latitude	47.5779704
Site Longitude	-122.1439435
Site Class	C
Risk Category	I-III

Table 2: Seismic Design Parameters

2015 IBC Design Parameter	Recommended Value
Seismic Design Category	D
PGA_M (2% in 50 years – 2,475 year event)	0.552
S_{DS}	0.899
S_{D1}	0.447

3.2.2 Seismic Hazards.

Aside from the direct impact of ground shaking on structures, additional seismic hazards to be considered in a seismic event include ground surface displacement from fault rupture, liquefaction and amplification of ground motion, and landslides.

Surface Displacement: The site is approximately 400 feet from the nearest known fault strand (discussed in **Section 2.2**). The mapped strand locations are considered moderately-well constrained, but the proximity of the strand to the site presents the possibility of surface displacement in a seismic event associated with that strand. Based on the lack of evidence of past fault displacement onsite, we expect the site to have a low overall risk for surface displacement.

Liquefaction: The liquefaction potential is highest for loose sand with a high groundwater table. The underlying dense to very dense outwash and hard transitional beds soils are considered to have a very low potential for liquefaction and amplification of ground motion and seismically induced lateral spread.

Landslides: The core of the site is inferred to be composed of glacially overridden soils. We consider these soils to be of high strength and considered to be stable with regard to deep-seated seismic slope failures. Slope stability is discussed further in **Section 3.3**.

3.3 Slope Stability

3.3.1 Landslide Hazard

The City of Bellevue defines a landslide hazard in LUC 20.25H.120(A)(1):

> *Areas of slopes of 15 percent or more with more than 10 feet of rise, which also display any of the following characteristics.*
>
> *a. Areas of historic failures, including those areas designated as quaternary slumps, earthflows, mudflows, or landslides.*
>
> *b. Areas that have shown movement during the Holocene Epoch (past 13,500 years) or that are underlain by landslide deposits.*

c. *Slopes that are parallel or subparallel to planes of weakness in subsurface materials.*

d. *Slopes exhibiting geomorphological features indicative of past failures, such as hummocky ground and back-rotated benches on slopes.*

e. *Areas with seeps indicating a shallow groundwater table on or adjacent to the slope face.*

f. *Areas of potential instability because of rapid stream incision, stream bank erosion, and undercutting by wave action.*

The core of the site is inferred to be composed of glacially overridden soils. We consider these soils to be of high strength and considered to be stable with regard to deep-seated slope failures. We did not observe indications of surficial seepage on the site, nor did we observe indications of shallow or deep-seated slope failures. The near-vertical orientation of conifer trees observed on the slope indicates no slope movement with the exception of typical creep in the surficial topsoil.

We observed some curvature of the trunks of young trees less than ten years old near the toe of the slope. We expect this curvature is an indication of topsoil sloughing that occurred at the toe of the slope near the excavation cut for the previous residence. There is a potential that the surficial soils on the steeper sections of the slope could slough over time. Any slough events are expected to be surficial, and are affected by surface water and man-made impacts. The risk of slough events can be minimized if proper drainage is installed, vegetation on the slope is maintained, and yard waste and other debris are kept off the slopes. We expect if a slough event were to occur, it would be small in scale and relatively shallow. Based on the LUC and our observations, it is our opinion that the site is not a landslide hazard area.

3.3.2 Steep Slope Hazard

As discussed in **Section 2.3**, the site contains a steep slope critical area in the southeastern corner of the site as well as crossing east to west in the central portion of the site as shown on the site plan in **Figure 2**. From our field explorations, we observed that steep slope on site is generally between 40 and 50% inclination. It appears that the toe of the slope was cut and steepened to create a leveled area for the residences.

The performance standards for development within geologic hazard areas including steep slope critical areas as well as associated setbacks and buffers are presented in LUC 20.25H.125. We reproduce LUC 20.25H.125 along with project-specific responses to each requirement.

> *In addition to generally applicable performance standards set forth in LUC 20.25H.055 and 20.25H.065, development within a landslide hazard or steep slope critical area or the critical area buffers of such hazards shall incorporate the following additional performance standards in design of the development, as applicable. The requirement for long-term slope stability shall exclude designs that require regular and periodic maintenance to maintain their level of function.*
>
> *A. Structures and improvements shall minimize alterations to the natural contour of the slope, and foundations shall be tiered where possible to conform to existing topography;*

The proposed retaining wall minimizes alterations to the natural slope. The surficial parking area is located to minimize required grading.

B. Structures and improvements shall be located to preserve the most critical portion of the site and its natural landforms and vegetation;

The proposed development is sited on the leveled northern portion of the site to the maximum possible extent while still providing the intended function. This location best preserves the steep and moderate slopes on site while improving the stability of the steep slope critical area.

C. The proposed development shall not result in greater risk or a need for increased buffers on neighboring properties;

Slope stability analysis presented in Section 3.3.3 demonstrates the proposed development will improve the stability of the steep slope critical area, reducing risk and mitigating the need for toe of slope setbacks.

D. The use of retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes where graded slopes would result in increased disturbance as compared to use of retaining wall;

The proposed development utilizes a retaining wall to maintain the existing natural slope to the maximum possible extent. The proposed development would also improve the stability of existing unretained artificial slopes on the site.

E. Development shall be designed to minimize impervious surfaces within the critical area and critical area buffer;

The proposed development includes an infiltration system for stormwater management in the critical area setback below the toe of slope. Impervious surfaces have been located and designed to reduce surficial runoff, improving slope stability. To the maximum extent possible, development in steep slope critical areas and buffers above top of slope should avoid infiltration and utilize collection and conveyance to reduce hydrostatic pressure on the slope and improve stability.

F. Where change in grade outside the building footprint is necessary, the site retention system should be stepped and regrading should be designed to minimize topographic modification. On slopes in excess of 40 percent, grading for yard area may be disallowed where inconsistent with this criteria;

Topographic modification on site will be minimized with the proposed retaining wall.

G. Building foundation walls shall be utilized as retaining walls rather than rockeries or retaining structures built separately and away from the building wherever feasible.

Freestanding retaining devices are only permitted when they cannot be designed as structural elements of the building foundation;

No building has been proposed. A retaining wall facing a cut is required to utilize the level area on the northern portion of the site for accessory surficial parking.

H. On slopes in excess of 40 percent, use of pole-type construction which conforms to the existing topography is required where feasible. If pole-type construction is not technically feasible, the structure must be tiered to conform to the existing topography and to minimize topographic modification;

Pole-type construction and tiering are not applicable to the proposed development.

I. On slopes in excess of 40 percent, piled deck support structures are required where technically feasible for parking or garages over fill-based construction types; and

Not applicable. The proposed surficial parking is not located on the slope. The project requires a (retained) cut at the toe of the steep slope, but no fill.

J. Areas of new permanent disturbance and all areas of temporary disturbance shall be mitigated and/or restored pursuant to a mitigation and restoration plan meeting the requirements of LUC 20.25H.210. (Ord. 5680, 6-26-06, § 3)

We understand project plans include mitigation and restoration for the zone of disturbance outside the proposed development in the critical area and setback.

3.3.3 Slope Stability Analysis

We analyzed global stability using a computer program by Rocscience known as Slide, version 6.0. Slide is a two-dimensional, limit-equilibrium, slope stability program for evaluating the safety factor or probability of failure, of circular or non-circular failure surfaces in soil or rock slopes. Slide analyzes the stability of slip surfaces using vertical slice limit equilibrium methods. The sections were analyzed using the Simplified Bishop's and Spencer's methods of slices. Slide generates random potential failure surfaces and determines their corresponding factors of safety with respect to failure. The factor of safety is defined as the ratio of the internal soil strength divided by the gravity driving forces that cause failure. By generating a large number of random surfaces, the factor of safety can be obtained as the lowest number calculated. We evaluated slope stability under static and pseudostatic conditions using limit equilibrium methods. The pseudostatic analysis is a tool used to estimate the factor of safety of the slope during a seismic event by applying a horizontal driving force to each slice of the slope. For active, or non-constrained conditions, an acceleration multiplier, A_c, typically equal to 0.5, is applied to the PGA.

The City of Bellevue's document *Geotechnical Report Requirements* provides requirements for pseudostatic analysis. Pseudostatic analysis is to be based on the peak ground acceleration with a 10 percent probability of exceedance in 50 years (475 year event). Table 3 below shows the derivation of the pseudostatic force parameter used in our slope stability analysis, based on the seismic design parameters in Table 2.

Geotechnical Report Requirements also presents factor of safety benchmarks to be achieved to demonstrate that the development does not increase risk to the site and surrounding properties. For a permanent slope with "low threat upon failure" defined as no impact to buildings or structures inhabited by humans, the design factor of safety must achieve 1.4 for static conditions and 1.1 for dynamic (pseudostatic).

Table 3: Pseudostatic Modeling for Slope Stability Analysis

Design Event Return Period (years)	PGA = $S_{ds}/2.5$	F_{pga}	$A_s = F_{pga}*PGA$	AccelerationMultiplier*, A_c	Design $K_h = A_s*A_c$
475	0.36	1.0	0.36	0.5	0.18

For our analyses, the modeled slope is derived from the topology of Cross-Section A-A' as shown on **Figure 2** and subsurface data as described in **Section 2.7** to represent existing conditions. The existing conditions model is modified for a leveled site with an approximately 12.5 foot high retaining wall (11.5 feet of vertical relief and 1 foot embedment) to represent the proposed conditions. We model the wall as a lateral pressure designed to resist active lateral pressures of the cut face as given in **Section 3.6.1** with a factor of safety of 1.5, per our recommendations and our understanding of the proposed wall design.

The factor of safety results of our slope stability evaluation are summarized in **Table 4**, below. The full results of our analyses with the lowest factor of safety displayed are attached in **Appendix B**. Based on the results of our slope stability analysis, it is our opinion that the proposed alteration will not increase risk to the site and surrounding properties, provided the cut within the steep slope critical area is stabilized with a retaining wall as described above. We should be retained to review the design of the retaining wall to ensure our recommendations are followed.

Table 4: Factor of Safety Results of Slope Stability Analysis

Slope Model Parameters		Static Factor of Safety		Seismic Factor of Safety	
Section	Scenario	Target Minimum	Result	Target Minimum	Result
A-A'	Existing	-	2.266	-	1.508
A-A'	Proposed	1.4	1.934	1.1	1.373

3.3.4 Steep Slope Critical Area Buffer/Setback Recommendations

Per LUC 20.25H.140.B.4, the critical areas report may make recommendations regarding suitable setbacks and buffers based upon the geotechnical analysis. Based on the performance standards for modification of steep slope critical areas discussed in **Section 3.3.2** as well as results of the slope stability analysis in **Section 3.3.3**, we consider the proposed development to meet Bellevue standards for slope stability and mitigation of risk. From a geotechnical perspective, the proposed development does not adversely impact the steep slope critical area, provided the cut within the steep slope critical area is stabilized with a retaining wall following the recommendations given in this report. We recommend that the proposed modification of the steep slope critical area on site be permitted. In association with the steep slope critical area, we recommend maintaining the default 50-foot buffer from the top of slope to protect the slope from additional loading or the alteration/concentration of stormwater infiltration and conveyance. The presence of the proposed retaining wall mitigates the risk below the toe of slope for development that consists solely of surface parking structures identified as "low threat upon failure". Consequently, we recommend City of Bellevue permit the proposed development of non-building structures within the default toe-of-slope slope setback.

3.4 Erosion Hazard

The erosion hazard criteria used for determination of affected areas includes soil type, slope gradient, vegetation cover, and groundwater conditions. The erosion sensitivity is related to vegetative cover and the specific surface soil types (group classification), which are related to the underlying geologic soil units. We reviewed the Web Soil Survey by the Natural Resources Conservation Service (NRCS) to determine the erosion hazard of the on-site soils. The site surface soils were classified using the SCS classification system as Arents Alderwood material (AmC). The erosion hazard for the soil is listed as being slight for the moderately sloping conditions at the site.

3.5 Foundation Design

Conventional shallow spread foundations should be founded on undisturbed, medium dense or firmer soil. If the soil at the planned bottom of footing elevation is not suitable, it should be overexcavated to expose suitable bearing soil. Footings should extend at least 18 inches below the lowest adjacent finished ground surface for frost protection. Minimum foundation widths should conform to IBC requirements. IBC guidelines should be followed when considering short-term transitory wind or seismic loads. Standing water should not be allowed to accumulate in footing trenches. All loose or disturbed soil should be removed from the foundation excavation prior to placing concrete.

We recommend the allowable design bearing pressure value in **Table 5** for foundations constructed as outlined above. Higher soil bearing values may be appropriate with wider footings. These higher values can be determined after a review of a specific design.

Table 5: Recommendations for Shallow Foundation Design

Parameter	Footing Width (ft)	Value for Advance Outwash sands
Allowable Bearing Pressure[1]	5' min.	5,300 psf
Approximate total settlement[2]		1 inch
Approximate differential settlement[3]		½ inch

Notes:
[1] A 1/3 increase can be used for extreme or seismic events.
[2] Assumes wall foundation built upon firm, medium dense or denser native soil.
[3] Differential settlement between footings or across a distance of about 30 feet.

3.6 Retaining Wall Design

3.6.1 Lateral Loads

The lateral earth pressure acting on retaining walls is dependent on the nature and density of the soil behind the wall, the amount of lateral wall movement, which can occur as backfill is placed, and the inclination of the backfill. Walls that are free to yield at least one-thousandth of the height of the wall are in an "active" condition. Walls restrained from movement by stiffness or bracing are in an "at-rest" condition.

We recommend designing the block wall with the values as given in **Table 6** below. The given values do not include the effects of surcharges, such as due to foundation loads or other surface loads. Surcharge effects should be considered where appropriate. Seismic lateral loads are a function of the site location, soil strength parameters and the peak horizontal ground acceleration (PGA) for a given return period.

Table 6: Lateral Earth Pressure Parameters

Friction Angle of Backfill	34 degrees
Friction Angle of Subgrade	34 degrees
Soil Interaction Between the Back of the Block and the Backfill	¾ X friction angle
Soil Weight	135 lb/ft^3
Buoyant Load	72.6 lb/ft^3
Kh (as described in Table 3)	0.18g

The above lateral pressures may be resisted by friction at the base of the wall and passive resistance against the foundation. We recommend resistance values as given in **Table 7** below. To achieve these values of passive resistance pressure, the foundations should be poured "neat" against the native dense soils, or compacted fill should be used as backfill against the front of the footing, and the soil in front of the wall should extend a horizontal distance at least

equal to three times the foundation depth. A resistance factor of 0.5 has been applied to the passive pressure to account for required movements to generate these pressures.

Table 7: Passive Resistance to Lateral Earth Pressure Parameters

Soil Type	Coefficient of Friction	Equivalent Fluid Density (pcf)
Outwash sands (native/structural fill)	0.54	250

All wall backfill should be well compacted. Care should be taken to prevent the buildup of excess lateral soil pressures due to overcompaction of the wall backfill.

3.6.2 Retaining Wall Drainage

Adequate drainage is essential for any retaining wall to prevent the buildup of hydrostatic pressures. Retaining wall drains should consist of 4-inch-diameter, perforated PVC pipe at the base of the wall that is surrounded by free-draining material, such as pea gravel. Retaining wall drains should discharge into tightlines leading to an appropriate collection and discharge point.

In our experience, the volume of water collected by retaining wall drains and routed to the stormwater detention system is typically insignificant when considered in the storm drainage design. We do not expect that the drain water will impact the design of the stormwater detention system.

3.7 Pavement Subgrade

The performance of roadway pavement is critically related to the conditions of the underlying subgrade. We recommend that the subgrade soils within the roadways be prepared as described in Section 3.10.1. Prior to placing base material, the subgrade soils should be compacted to a non-yielding state with a vibratory roller compactor and then proof-rolled with a piece of heavy construction equipment, such as a fully-loaded dump truck. Any areas with excessive weaving or flexing should be overexcavated and recompacted or replaced with a structural fill or crushed rock placed and compacted in accordance with recommendations provided in Section 3.10.3.

3.8 Drainage

We recommend that runoff from impervious surfaces, such as driveway and access roadways, be collected and routed to an appropriate storm water discharge system. Surface water should be collected by permanent catch basins and drain lines, and be discharged into a storm drain system or allowed to infiltrate through the permeable pavement.

3.9 Infiltration

Infiltration testing was addressed in our Infiltration Letter dated May 29, 2020. The letter is attached to this report as Appendix C.

3.10 Earthwork and Construction Considerations

3.10.1 Site Preparation and Grading

The first step of site preparation should be to strip the vegetation, topsoil, or loose soils to expose medium dense or firmer native soils in pavement and building areas. The excavated material should be removed from the site, or stockpiled for later use as landscaping fill. The resulting subgrade should be compacted to a firm, non-yielding condition. Areas observed to pump or yield should be repaired prior to placing hard surfaces.

3.10.2 Temporary and Permanent Slopes

Temporary cut slope stability is a function of many factors, such as the type and consistency of soils, depth of the cut, surcharge loads adjacent to the excavation, length of time a cut remains open, and the presence of surface or groundwater. It is exceedingly difficult under these variable conditions to estimate a stable temporary cut slope geometry. Therefore, it should be the responsibility of the contractor to maintain safe slope configurations, since the contractor is continuously at the job site, able to observe the nature and condition of the cut slopes, and able to monitor the subsurface materials and groundwater conditions encountered.

For planning purposes, we recommend that temporary cuts behind the block wall will be completed in small sections. These sections should be approximately the width of one block. After the block is set, the wall should be stacked to the height possible before making another small cut. With this method of excavation, it is our opinion a temporary cut of 1/2H:1V can be made to allow construction of the block wall. A near vertical cut is preferred but will have to be evaluated in the field at the time of construction based on site performance. The geotechnical engineer should be on-site to evaluate the cut as it is completed. If groundwater seepage is encountered, we expect that flatter inclinations would be necessary.

We recommend that cut slopes be protected from erosion. Measures taken may include covering cut slopes with plastic sheeting and diverting surface runoff away from the top of cut slopes. We do not recommend vertical slopes for cuts deeper than 4 feet, if worker access is necessary. We recommend that cut slope heights and inclinations conform to local and WISHA/OSHA standards.

Final slope inclinations for granular structural fill and the native soils should be no steeper than 2H:1V. Final slopes should be vegetated and covered with straw or jute netting. The vegetation should be maintained until it is established.

3.10.3 Structural Fill

All fill placed beneath pavements or other settlement sensitive features should be placed as structural fill. Structural fill, by definition, is placed in accordance with prescribed methods and standards, and is observed by an experienced geotechnical professional or soils technician. Field observation procedures would include the performance of a representative number of in-place density tests to document the attainment of the desired degree of relative compaction.

Materials: The use of on-site soil as structural fill will be dependent on moisture content control. Some drying of the native soils may be necessary in order to achieve compaction. During warm, sunny days this could be accomplished by spreading the material in thin lifts and compacting. Some aeration and/or addition of moisture may also be necessary. We expect that

compaction of the native soils to structural fill specifications would be difficult, if not impossible, during wet weather.

Imported structural fill should consist of a good quality, free-draining granular soil, free of organics and other deleterious material, and be well graded to a maximum size of about 3 inches. Imported, all-weather structural fill should contain no more than 5 percent fines (soil finer than a Standard U.S. No. 200 sieve), based on that fraction passing the U.S. 3/4-inch sieve.

Fill Placement: Following subgrade preparation, placement of the structural fill may proceed. Fill should be placed in 8- to 10-inch-thick uniform lifts, and each lift should be spread evenly and be thoroughly compacted prior to placement of subsequent lifts. All structural fill underlying building areas, and within a depth of 2 feet below pavement and sidewalk subgrade, should be compacted to at least 95 percent of its maximum dry density. Maximum dry density, in this report, refers to that density as determined by the ASTM D1557 compaction test procedure. Fill more than 2 feet beneath sidewalks and pavement subgrades should be compacted to at least 90 percent of the maximum dry density. The moisture content of the soil to be compacted should be within about 2 percent of optimum so that a readily compactable condition exists. It may be necessary to overexcavate and remove wet surficial soils in cases where drying to a compactable condition is not feasible. All compaction should be accomplished by equipment of a type and size sufficient to attain the desired degree of compaction.

3.10.1 Utilities

Our explorations indicate that deep dewatering will not be needed to install standard depth utilities. Anticipated groundwater is expected to be handled with pumps in the trenches. We also expect that some groundwater seepage may develop during and following the wetter times of the year. We expect this seepage to mostly occur in pockets. We do not expect significant volumes of water in these excavations.

The soils likely to be exposed in utility trenches after site stripping are considered highly moisture sensitive. We recommend that they be considered for trench backfill during the drier portions of the year. Provided these soils are within 2 percent of their optimum moisture content, they should be suitable to meet compaction specifications.

3.10.2 Wet Weather Considerations

The on-site outwash soils likely to be exposed during construction are considered moisture sensitive, and the surface will disturb easily when wet. We expect these soils will be difficult to compact to structural fill specifications in wet weather. We recommend that earthwork be conducted during the drier months. Additional expenses of wet weather or winter construction could include extra excavation and use of imported fill or rock spalls. During wet weather, alternative site preparation methods may be necessary. These methods may include utilizing a smooth-bucket trackhoe to complete site stripping and diverting construction traffic around prepared subgrades. Disturbance to the prepared subgrade may be minimized by placing a blanket of rock spalls or imported sand and gravel in traffic and roadway areas. Cutoff drains or ditches can also be helpful in reducing grading costs during the wet season. These methods can be evaluated at the time of construction.

4 FUTURE WORK

4.1 Engineering and Design

The intent of this geotechnical report is to provide Crestwood Corporate Plaza Partners with a professional evaluation of existing subsurface and slope conditions at the site and to provide recommendations for geotechnical design elements of the proposed project.

As Crestwood Corporate Plaza Partners proceeds with the project, we may be retained to provide additional services including geotechnical explorations and testing, engineering, design work, and project management specific to their chosen design.

4.2 Construction Observation

We should be retained to provide observation and consultation services during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, and to provide recommendations for design changes, should the conditions revealed during the work differ from those anticipated. As part of our services, we would also evaluate whether or not earthwork and foundation installation activities comply with contract plans and specifications.

We recommend that Robinson Noble perform the following tasks:

- Review contractor submittals
- Observe the condition of excavation cuts in the steep slope area
- Observe foundation installation
- Observe foundation and wall drainage installation
- Observe wall installation and backfill
- Perform compaction tests
- Perform laboratory tests as needed
- Attend meetings as needed
- Provide geotechnical consultation

5 USE OF THIS REPORT

We have prepared this report for Crestwood Corporate Plaza Partners and its agents, for use in planning and design of this project. The data and report should be provided to prospective contractors for their bidding and estimating purposes, but our report, conclusions and interpretations should not be construed as a warranty of subsurface conditions.

The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractors' methods, techniques, sequences or procedures, except as specifically described in our report, for consideration in design. There are possible variations in subsurface conditions. We recommend that project planning include contingencies in budget and schedule, should areas be found with conditions that vary from those described in this report.

Within the limitations of scope, schedule and budget for our services, we have strived to take care that our services have been completed in accordance with generally accepted practices followed in this area at the time this report was prepared. No other conditions, expressed or implied, should be understood.

We appreciate the opportunity to be of service to you. If there are any questions concerning this report or if we can provide additional services, please call.

6 REFERENCES

Bellevue, City of. (February 27, 2019.) *Geotechnical Report Requirements.* Development Services.

Bellevue, City of. *Bellevue Municipal CodeLand Use Code.*

International Code Council. *2018 International Building Code.*

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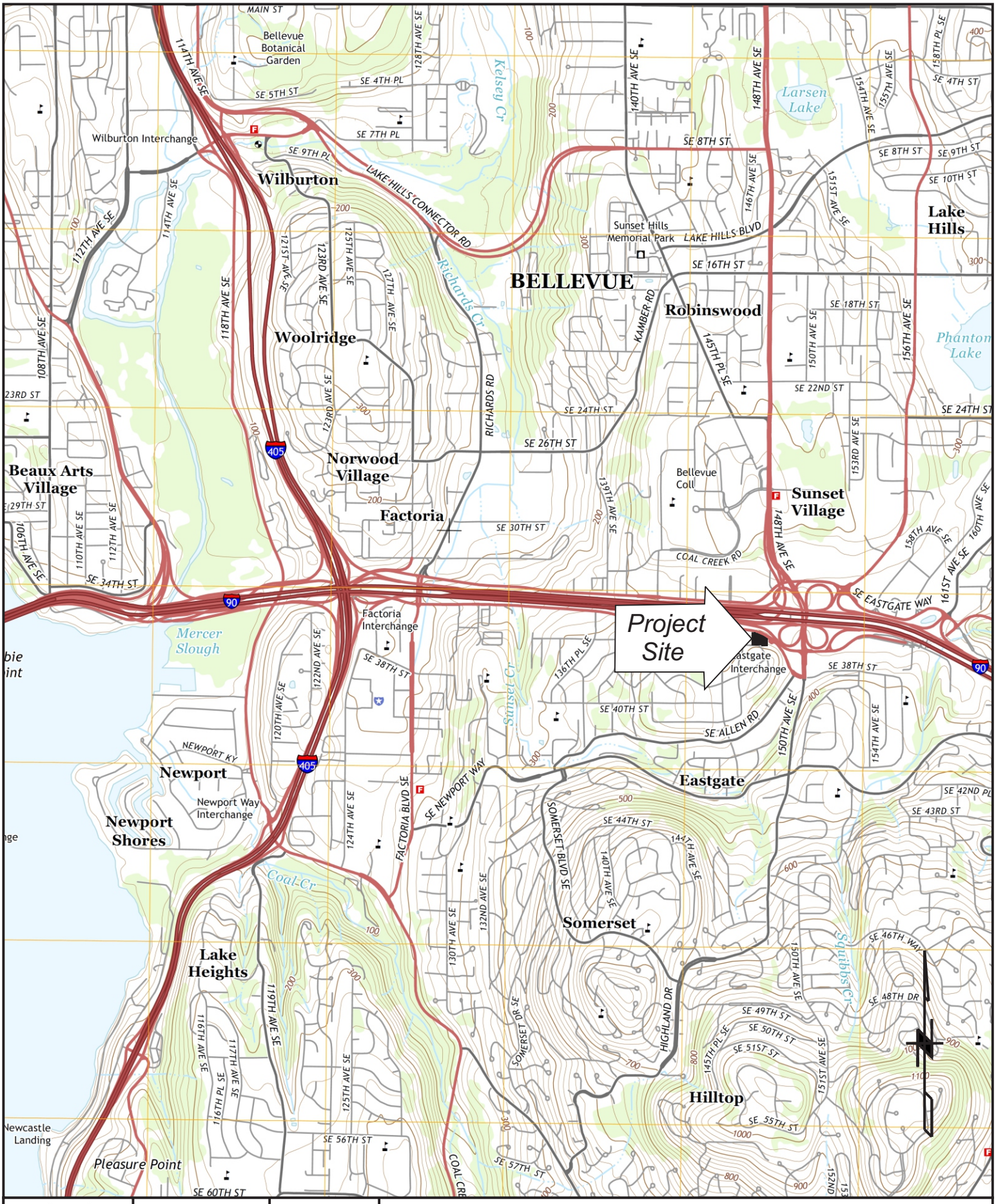
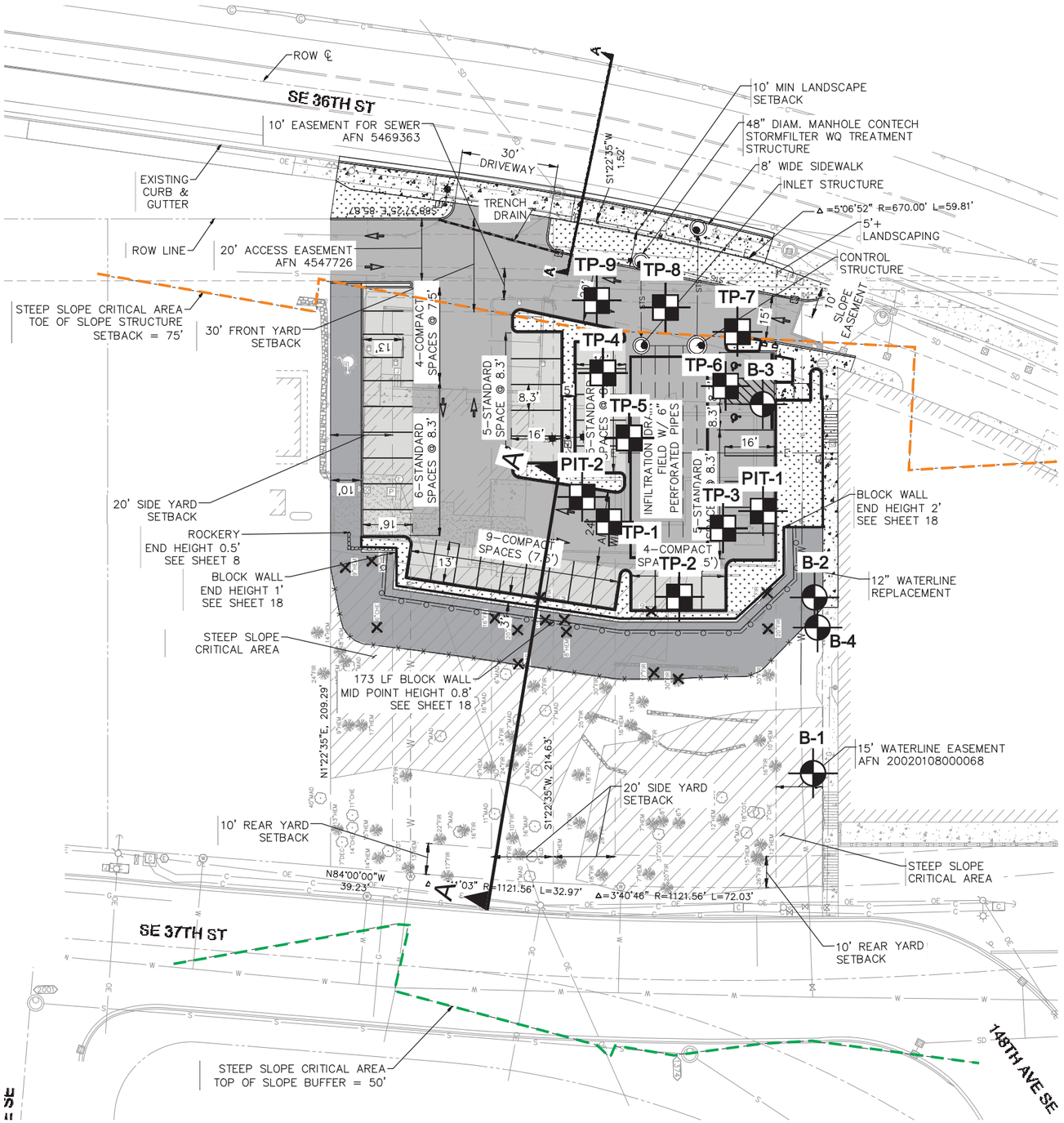
United States Geological Survey (2020). *Quaternary Fault and Fold Database of the United States: Interactive Fault Map.* https://earthquake.usgs.gov/hazards/qfaults/

Yount, James C., Minard, James P., and Dembroff, Glenn R., 1993. *Geologic Map of Surficial Deposits in the Seattle 30' x 60' Quadrangle, Washington*. U.S. Geological Survey. Open-File Report 93-233.



ROBINSON NOBLE	Note: Basemap taken from Mercer Island 7.5-minute series. USGS 2014.	PM: RBP October 2020 3168-001B	Figure 1 Vicinity Map Eastview Corporate Plaza, Accessory Parking Lot



LEGEND

- **B-1** — Number and Approximate Location of Soil Boring
- **PIT-1** — Number and Approximate Location of PITs (see Appendix C)
- **TP-1** — Number and Approximate Location of Test Pit (see Appendix C)
- Approximate Location of Steep Slope Critical Area Identified by Dowl
- Approximate Location of 75' Toe of Slope Critical Area Setback Identified by Dowl
- Approximate Location of 50' Top of Slope Critical Area Buffer Identified by Dowl
- A — A' Number and Approximate Location of Cross Section

0 40 80

Scale 1" = 40'

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Note: Basemap taken from Site Plan B prepared by Dowl.

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October 2020
3168-001B

Figure 2

Site Plan

Eastview Corporate Plaza, Accessory Parking Lot

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE - GRAINED SOILS MORE THAN 50% RETAINED ON NO. 200 SIEVE	GRAVEL MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVEL	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
			GP	POORLY-GRADED GRAVEL
		GRAVEL WITH FINES	GM	SILTY GRAVEL
			GC	CLAYEY GRAVEL
	SAND MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE	CLEAN SAND	SW	WELL-GRADED SAND, FINE TO COARSE SAND
			SP	POORLY-GRADED SAND
		SAND WITH FINES	SM	SILTY SAND
			SC	CLAYEY SAND
FINE - GRAINED SOILS MORE THAN 50% PASSES NO. 200 SIEVE	SILT AND CLAY LIQUID LIMIT LESS THAN 50%	INORGANIC	ML	SILT
			CL	CLAY
		ORGANIC	OL	ORGANIC SILT, ORGANIC CLAY
	SILT AND CLAY LIQUID LIMIT 50% OR MORE	INORGANIC	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
			CH	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC	OH	ORGANIC CLAY, ORGANIC SILT
HIGHLY ORGANIC SOILS			PT	PEAT

NOTES:

* 1) Field classification is based on visual examination of soil in general accordance with ASTM D 2488-93.

* 2) Soil classification using laboratory tests is based on ASTM D 2487-93.

3) Descriptions of soil density or consistency are based on interpretation of blowcount data, visual appearance, of soils, and/or test data.

* Modifications have been applied to ASTM methods to describe sit and clay content.

$N_{60} = N_M * C_E * C_B * C_R * C_S$

N_M = blows/foot, measured in field

C_E = $ER_m/60$, convert measured hammer energy to 60% for comparison with design charts.

C_B = adjusts borehole diameter

C_R = rod length, adjusts for energy loss in rods

C_S = Sample liner = 1.0

SOIL MOISTURE MODIFIERS

Dry- Absence of moisture, dusty, dry to the touch

Moist- Damp, but no visible water

Wet- Visible free water or saturated, usually soil is obtained from below water table

KEY TO BORING LOG SYMBOLS

▽ Ground water level

● Blows required to drive sample 12 in. using SPT (converted to N_{60})

MC (■) = % Moisture = $\frac{\text{(Weight of water)}}{\text{(Weight of dry soil)}}$

DD = Dry Density

SM — Letter symbol for soil type

Contact between soil strata (Dashed line indicates approximate contact between soils)

ML — Letter symbol for soil type

NOTE: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual

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3168-001B

Figure 3

Eastview Corporate Plaza, Accessory Parking Lot

B-1

Page 1 of 2

Date	2/9/2017	Hole dia. (in)	6
Logged by	JHA	Hole depth ft	26.5
Driller	Boretec	Well dia. (in)	N/A
Elevation (ft)	~380	Well depth	N/A
Sample Liner	Yes	Hammer Eff.	60%

LITHOLOGY / DESCRIPTION	U.S.C.	Sample Recovery/ Driven Interval (in)	N- Blow Counts (blows/6")
Brown gray with occasional rust staining fine to coarse sand with silt and gravel (medium dense, moist) **(Weathered Advance Outwash)**	SP-SM	6/18	10 11 12
Gray fine to medium sand with silt (medium dense to dense, moist) **(Advance Outwash)**	SP-SM	18/18	10 17 20
Gray fine to medium sand with silt and gravel (dense, moist) **(Advance Outwash)**	SP-SM	18/18	16 24 27
Gray fine to medium sand with silt and gravel (dense, moist) **(Advance Outwash)**	SP-SM	18/18	17 24 27
Gray fine to medium sand with silt (very dense, moist) **(Advance Outwash)**	SP-SM	18/18	20 42 50/6"
Gray fine to medium sand with silt trace gravel (very dense, moist) **(Advance Outwash)**	SP-SM	8/8	43 50/2"

Static Water Level

Depth (feet)

Standard Penetration Resistance
(140 lb. weight, 30" drop)
◆ SPT N_{60} (blows/ft)
■ Moisture Content (%)

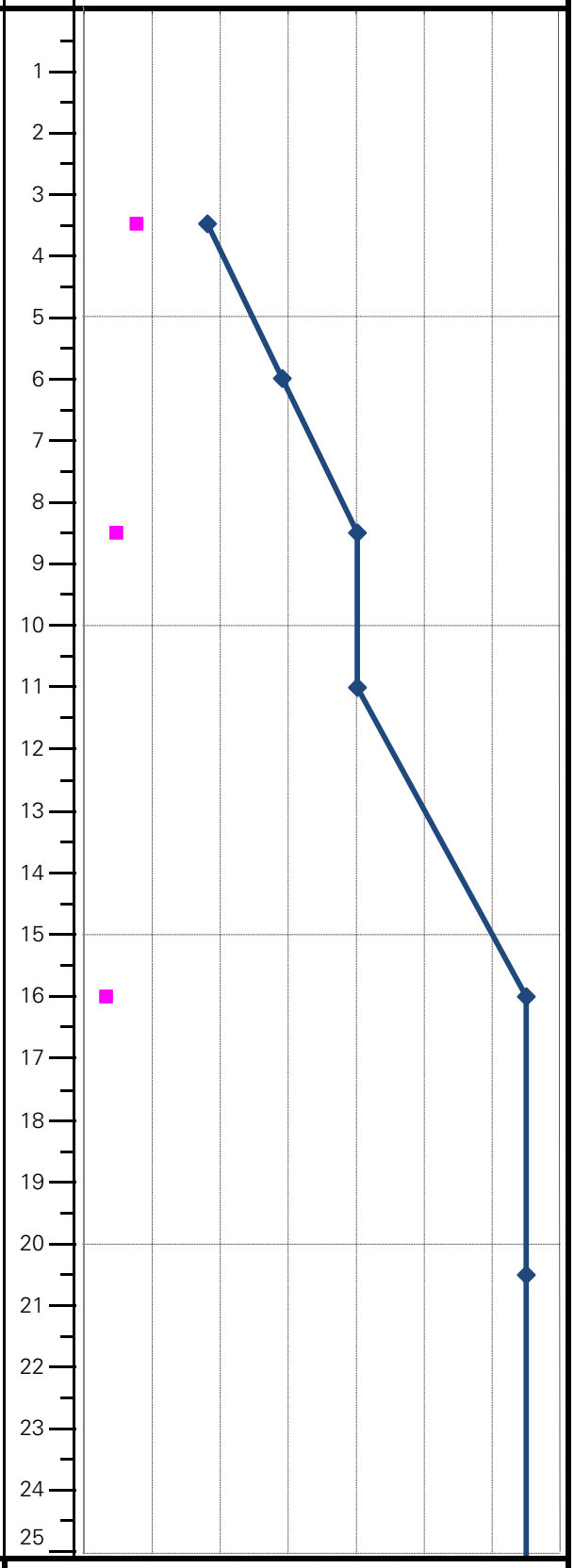

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Figure: 4

B-1				
	Date	2/9/2017	Hole diameter	6
	Logged by	JHA	Hole depth	26.5
	Driller	Boretec	Well diameter	N/A
Page 2 of 2	Elevation (ft)	~380	Well depth	N/A
	Sample Liner	Yes	Hammer Eff.	60%

LITHOLOGY / DESCRIPTION	U.S.C.	Sample Recovery/ Driven Interval (in)	N- Blow Counts (blows/6")	Static Water Level
Gray fine to medium sand with silt and gravel (very dense, moist) (Advance Outwash)	SP-SM	12/12	28 50/6"	
Boring completed at 26.5 feet below ground surface. Groundwater not encountered.				

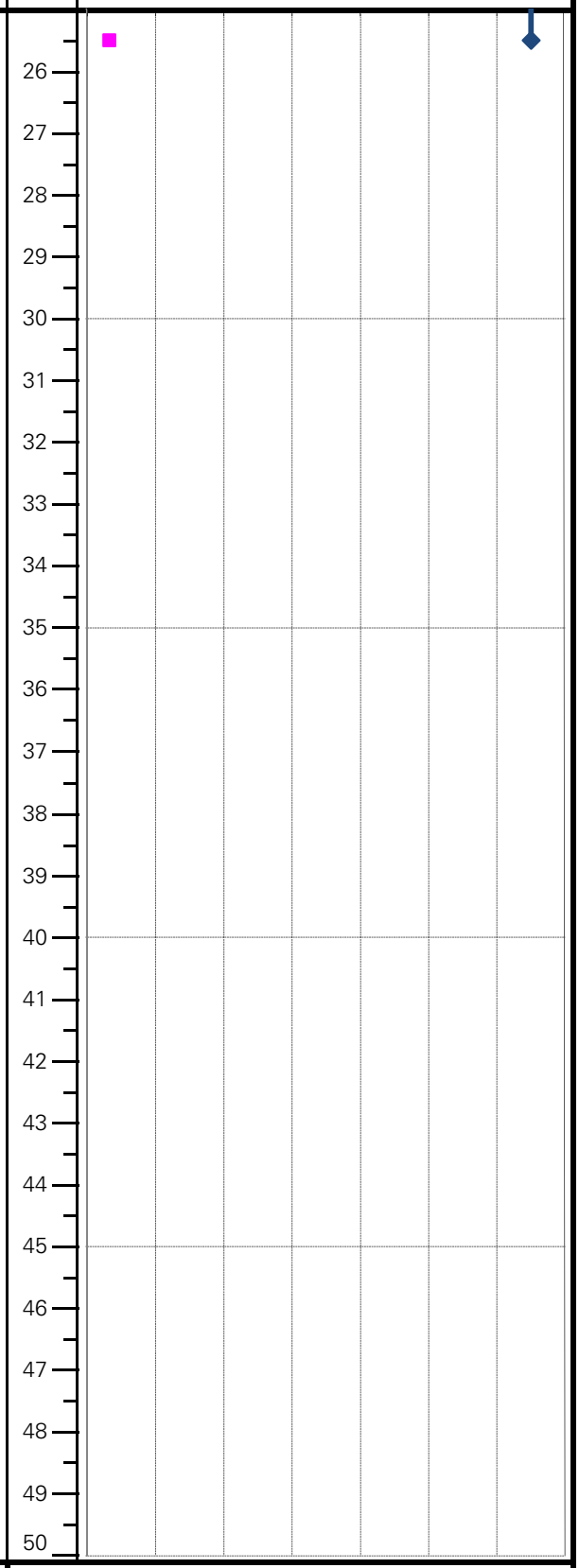

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Figure: 5

B-2

Page 1 of 2

Date	2/9/2017	Hole dia. (in)	6
Logged by	JHA	Hole depth ft	26.5
Driller	Boretec	Well dia. (in)	N/A
Elevation (ft)	~366	Well depth	N/A
Sample Liner	Yes	Hammer Eff.	60%

LITHOLOGY / DESCRIPTION	U.S.C.	Sample Recovery/ Driven Interval (in)	N- Blow Counts (blows/6")
Brown gray with trace rust staining fine to medium sand with silt trace gravel (medium dense, moist) **(Weathered Advance Outwash)**	SP-SM	18/18	5 13 12
Gray fine to medium sand with silt trace gravel (dense, moist) **(Advance Outwash)**	SP-SM	18/18	25 23 21
Gray fine to medium sand with silt and gravel (dense, moist) **(Advance Outwash)**	SP-SM	18/18	14 19 21
Gray fine to medium sand with silt trace gravel (dense, moist) **(Advance Outwash)**	SP-SM	18/18	18 20 25
Gray fine to medium sand with silt and gravel (very dense, moist) **(Advance Outwash)**	SP-SM	18/18	16 28 48
Gray fine to medium sand with silt, contains frequent silt layers less than 1" thick (very dense, moist) **(Advance Outwash)**	SP-SM	18/18	21 29 46

Static Water Level

Depth (feet)

Standard Penetration Resistance
(140 lb. weight, 30" drop)
◆ SPT N_{60} (blows/ft)
■ Moisture Content (%)

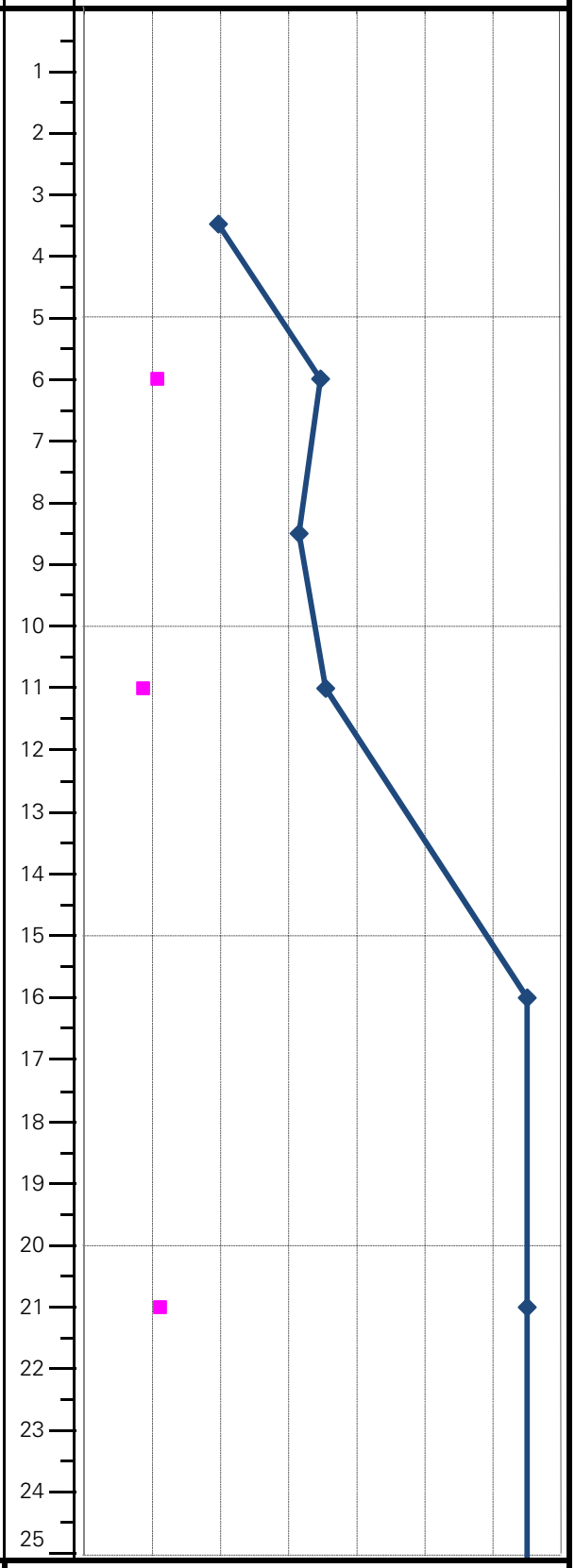

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Figure: 6

B-2

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Date	2/9/2017	Hole diameter	6
Logged by	JHA	Hole depth	26.5
Driller	Boretec	Well diameter	N/A
Elevation (ft)	~366	Well depth	N/A
Sample Liner	Yes	Hammer Eff.	60%

LITHOLOGY / DESCRIPTION	U.S.C.	Sample Recovery/ Driven Interval (in)	N- Blow Counts (blows/6")	Static Water Level
Gray silt with frequent sand seams trace gravel (hard, moist) (Transitional Beds)	ML	12/12	18 50/6"	
Boring completed at 26.5 feet below ground surface. Groundwater not encountered.				

Standard Penetration Resistance
(140 lb. weight, 30" drop)
◆ SPT N_{60} (blows/ft)
■ Moisture Content (%)

Depth (feet): 0 10 20 30 40 50 60; 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

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Figure: 7

B-3

Page 1 of 1

Date	2/9/2017	Hole dia. (in)	6
Logged by	JHA	Hole depth ft	16.5
Driller	Boretec	Well dia. (in)	N/A
Elevation (ft)	~354	Well depth	N/A
Sample Liner	Yes	Hammer Eff.	60%

LITHOLOGY / DESCRIPTION	U.S.C.	Sample Recovery/ Driven Interval (in)	N- Blow Counts (blows/6")
Brown to light brown silty sand with gravel (medium dense, moist) **(Fill)**	SM	18/18	6 13 14
Gray fine to medium sand with silt trace gravel (dense, moist) **(Advance Outwash)**	SP-SM	18/18	17 20 24
Gray interbedded silt and sand with silt trace gravel (hard/very dense, moist) **(Transitional Beds)**	ML/SP-SM	18/18	14 17 40
Gray fine to medium sand with silt and gravel (dense, moist) **(Transitional Beds)**	SP-SM	18/18	19 20 25
Gray silty fine sand trace gravel (medium dense to dense, moist) **(Transitional Beds)**	SM	18/18	22 18 14
Boring completed at 16.5 feet below ground surface. Groundwater not encountered.			

Static Water Level

Depth (feet)

Standard Penetration Resistance
(140 lb. weight, 30" drop)
◆ SPT N_{60} (blows/ft)
■ Moisture Content (%)

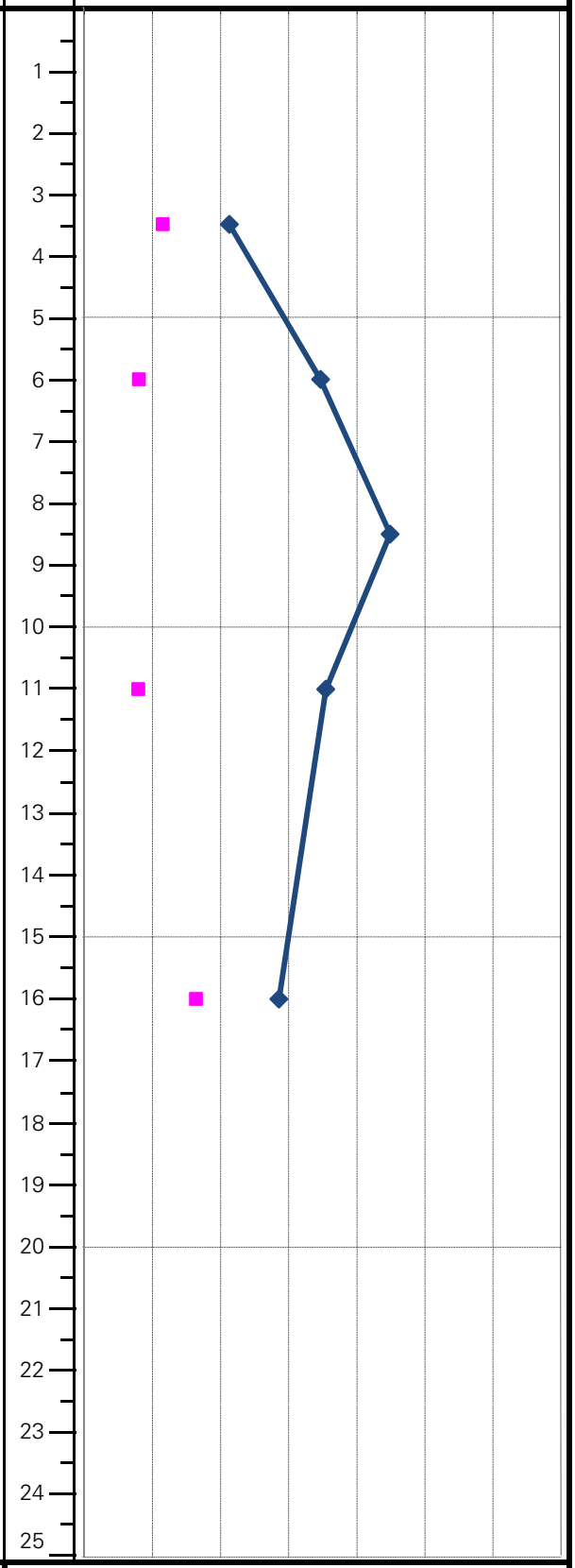

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Figure: 8

B-4

Page 1 of 2

Date	3/5/2018	Hole dia. (in)	6
Logged by	JHA	Hole depth ft	46.5'
Driller	Boretec	Well dia. (in)	N/A
Elevation (ft)	367.0	Well depth	N/A
Sample Liner	Yes	Hammer Eff.	60%

LITHOLOGY / DESCRIPTION	U.S.C.	Sample Recovery/ Driven Interval (in)	N- Blow Counts (blows/6")	Static Water Level
Gray silty fine to medium sand with gravel (medium dense, moist) **(Weathered Advance Outwash)**	SM	18/18	10 10 9	
Gray fine to medium sand with silt and gravel (dense, moist) **(Advance Outwash)**	SP-SM	16/18	23 26 23	
Gray fine to medium sand with silt and gravel (dense, moist) **(Advance Outwash)**	SP-SM	18/18	15 21 23	
Gray fine to medium sand with silt, gravel and 1" silt lense (dense, moist) **(Advance Outwash)**	SP-SM	18/18	25 24 26	

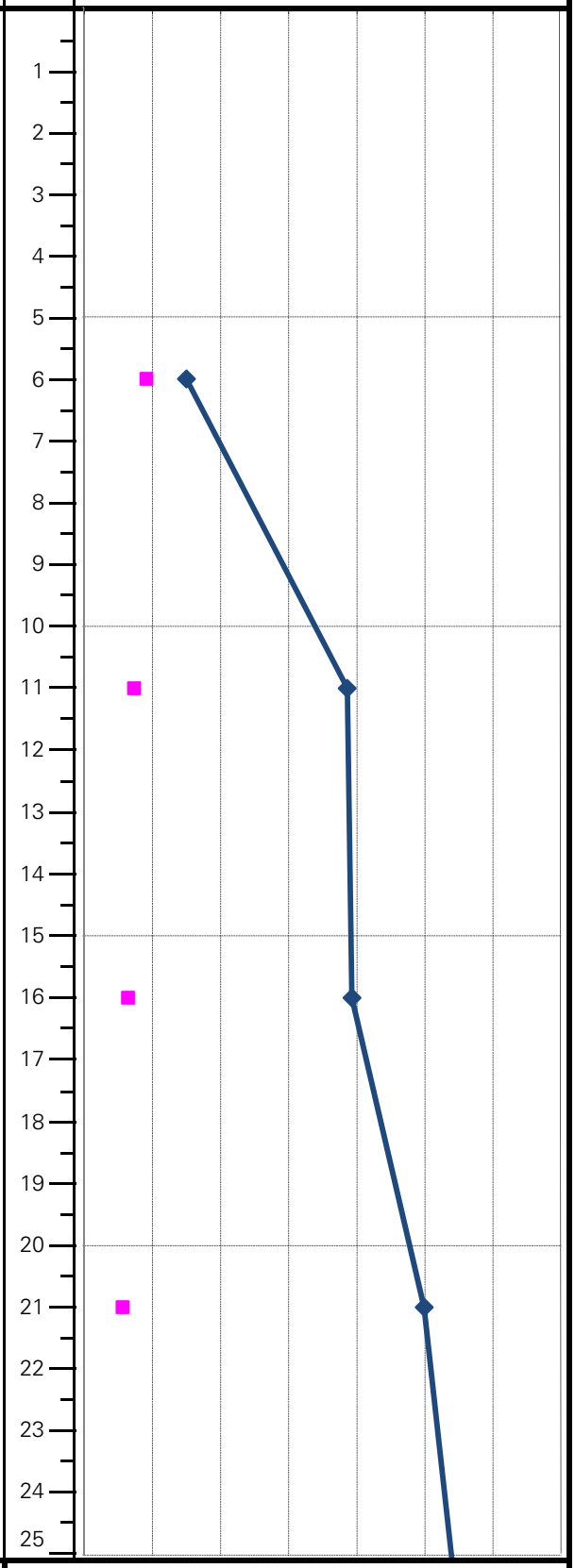

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Figure 9

B-4

Page 2 of 2

Date	3/5/2018	Hole diameter	6
Logged by	JHA	Hole depth	46.5'
Driller	Boretec	Well diameter	N/A
Elevation (ft)	367.0	Well depth	N/A
Sample Liner	Yes	Hammer Eff.	60%

LITHOLOGY / DESCRIPTION	U.S.C.	Sample Recovery/ Driven Interval (in)	N- Blow Counts (blows/6")
Gray fine to medium sand with silt and gravel (very dense, wet) **(Advance Outwash)**	SP-SM	18/18	25 18
Gray sandy silt with lenses of silty sand (stiff, moist) **(Transitional Beds)**	ML		37
Gray silty sand with gravel trace silty clay with faint horizontal bedding (very dense, moist)	SM	8/8	34 50/2"
Gray silty sand with gravel trace silty clay (very dense, moist)	SM	5/5	50/5"
Gray silty fine to coarse sand with gravel (very dense, moist)	SM	5/5	50/5"
Gray fine to medium silty sand to sand with silt and gravel (very dense, moist)	SM/ SP-SM	6/6	50/6"
Boring completed at 46.5 feet on March 5, 2018 Groundwater was observed at 25.5 feet			

Static Water Level

Depth (feet)

Standard Penetration Resistance
(140 lb. weight, 30" drop)
◆ SPT N_{60} (blows/ft)
■ Moisture Content (%)

0 10 20 30 40 50 60 65+

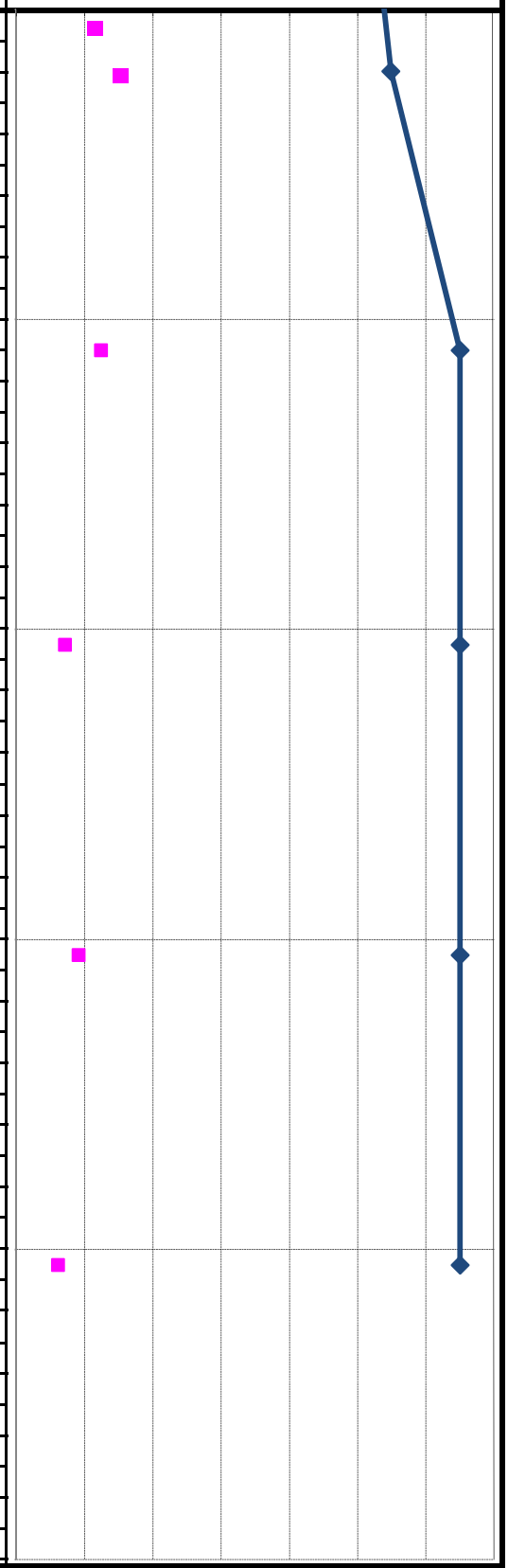

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Figure 10

Appendix A

- Design Maps Summary Report

14718 SE 36th St, Bellevue, WA 98006, USA

Latitude, Longitude: 47.5779704, -122.1439435

Date	10/14/2020, 11:36:26 AM
Design Code Reference Document	IBC-2015
Risk Category	III
Site Class	C - Very Dense Soil and Soft Rock

Type	Value	Description
S_S	1.348	MCE_R ground motion. (for 0.2 second period)
S_1	0.516	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.348	Site-modified spectral acceleration value
S_{M1}	0.671	Site-modified spectral acceleration value
S_{DS}	0.899	Numeric seismic design value at 0.2 second SA
S_{D1}	0.447	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1.3	Site amplification factor at 1.0 second
PGA	0.552	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.552	Site modified peak ground acceleration
T_L	6	Long-period transition period in seconds
SsRT	1.348	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.396	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	3.213	Factored deterministic acceleration value. (0.2 second)
S1RT	0.516	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.549	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	1.307	Factored deterministic acceleration value. (1.0 second)
PGAd	1.242	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	0.966	Mapped value of the risk coefficient at short periods
C_{R1}	0.94	Mapped value of the risk coefficient at a period of 1 s

DISCLAIMER

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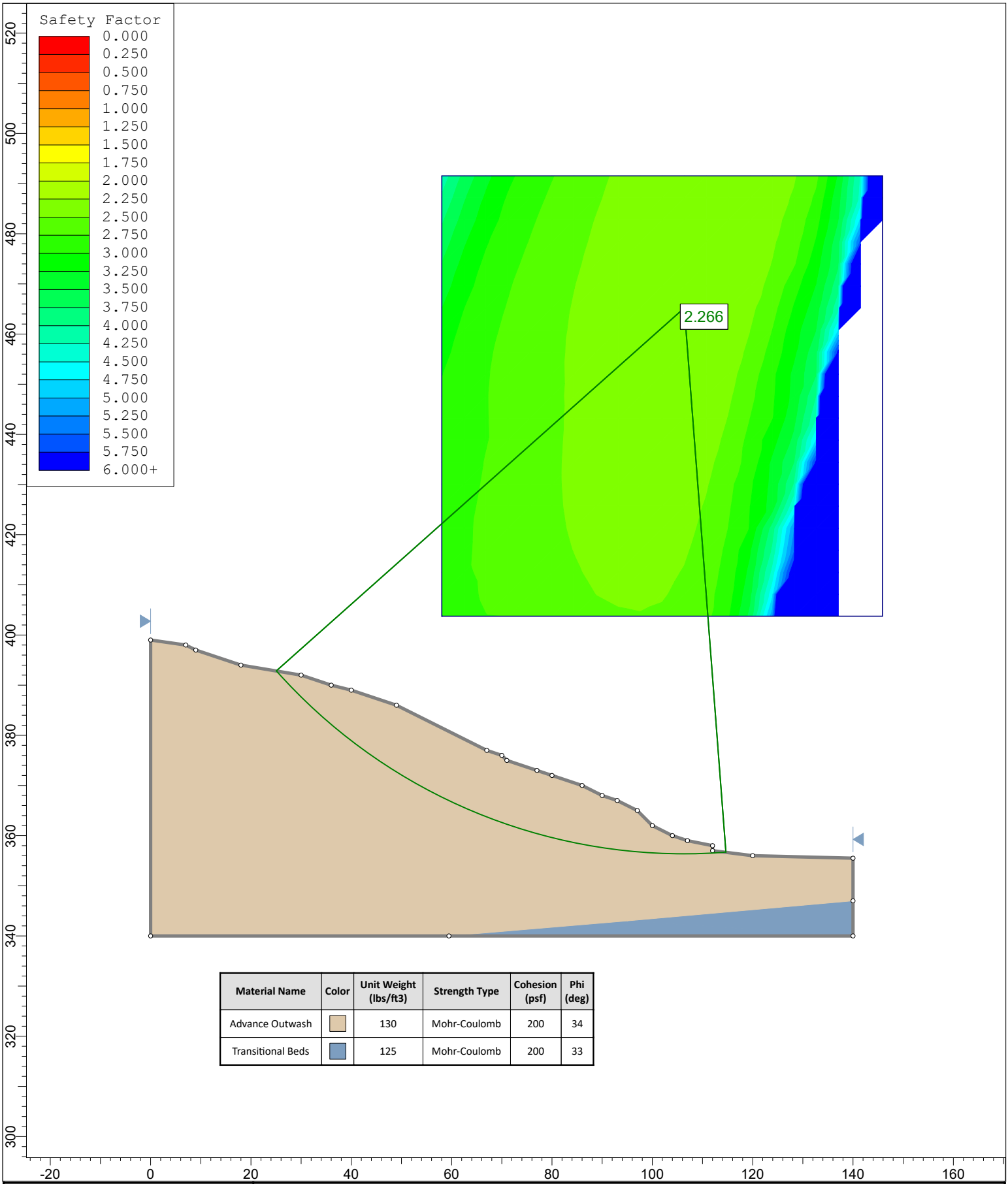
Appendix B

- Slope Stability Analysis

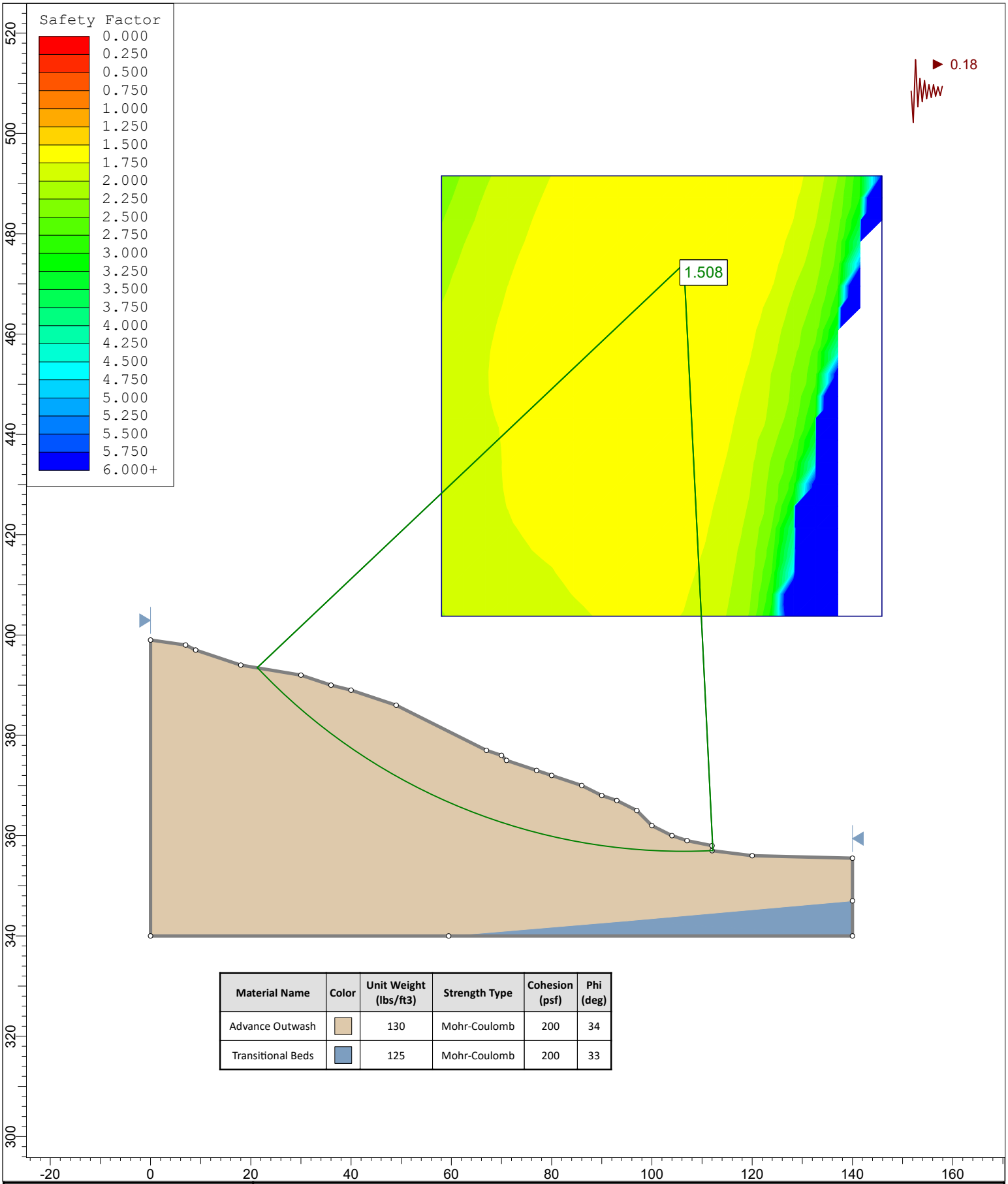


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)
Advance Outwash		130	Mohr-Coulomb	200	34
Transitional Beds		125	Mohr-Coulomb	200	33

ROBINSON NOBLE

SLIDEINTERPRET 6.029

Project	SLIDE - An Interactive Slope Stability Program		
Analysis Description	Eastwood A-A', Existing Conditions, Static		
Drawn By	BRP	*Scale* 1:300	*Company* Robinson Noble, Inc.
Date	10/19/2020		*File Name* Eastwood A-A' existing static.slim

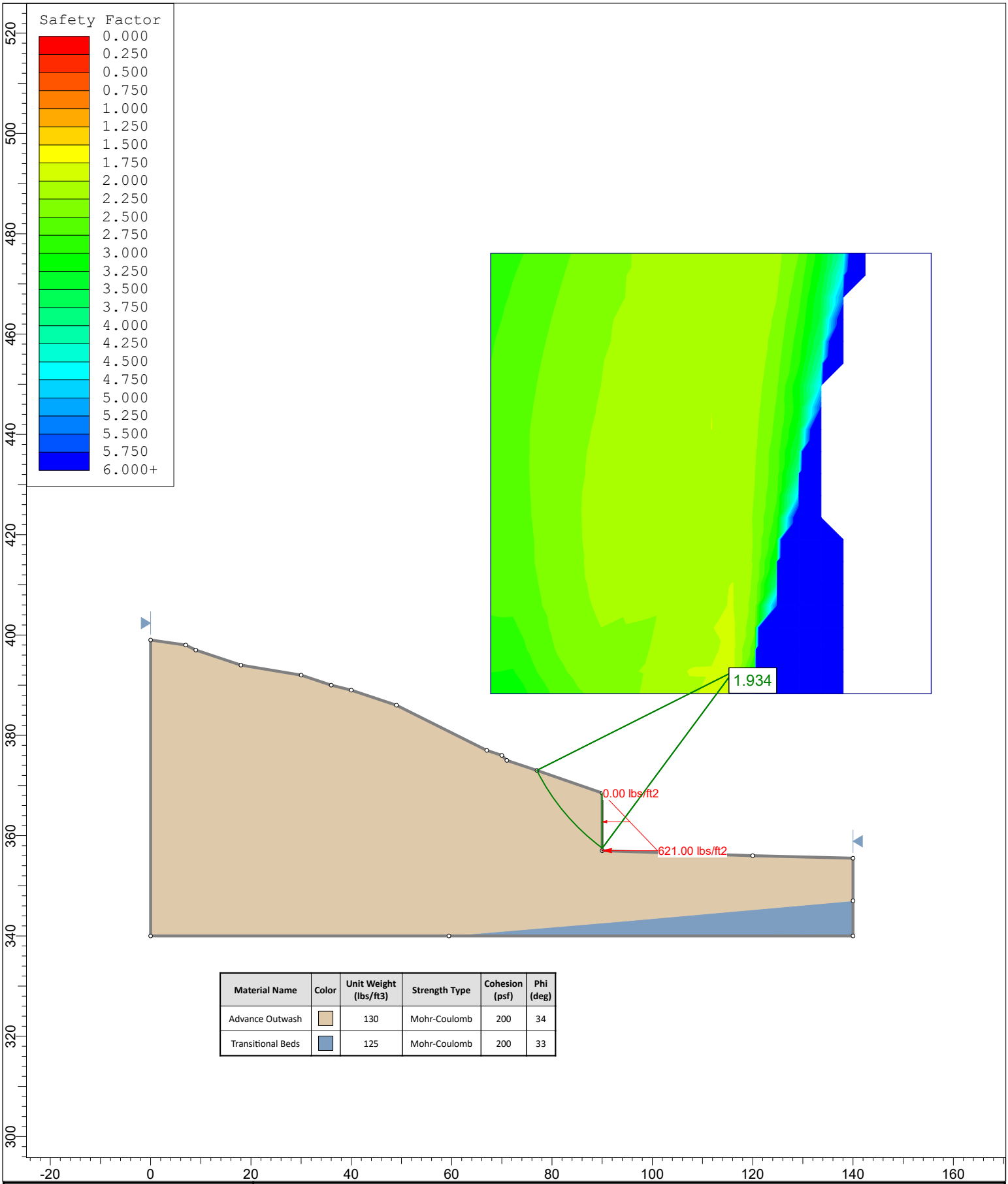


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)
Advance Outwash		130	Mohr-Coulomb	200	34
Transitional Beds		125	Mohr-Coulomb	200	33

ROBINSON NOBLE

Project	SLIDE - An Interactive Slope Stability Program		
Analysis Description	Eastwood A-A', Existing Conditions, Seismic		
Drawn By	BRP	*Scale* 1:300	*Company* Robinson Noble, Inc.
Date	10/19/2020		*File Name* Eastwood A-A' existing seismic.slim

SLIDEINTERPRET 6.029

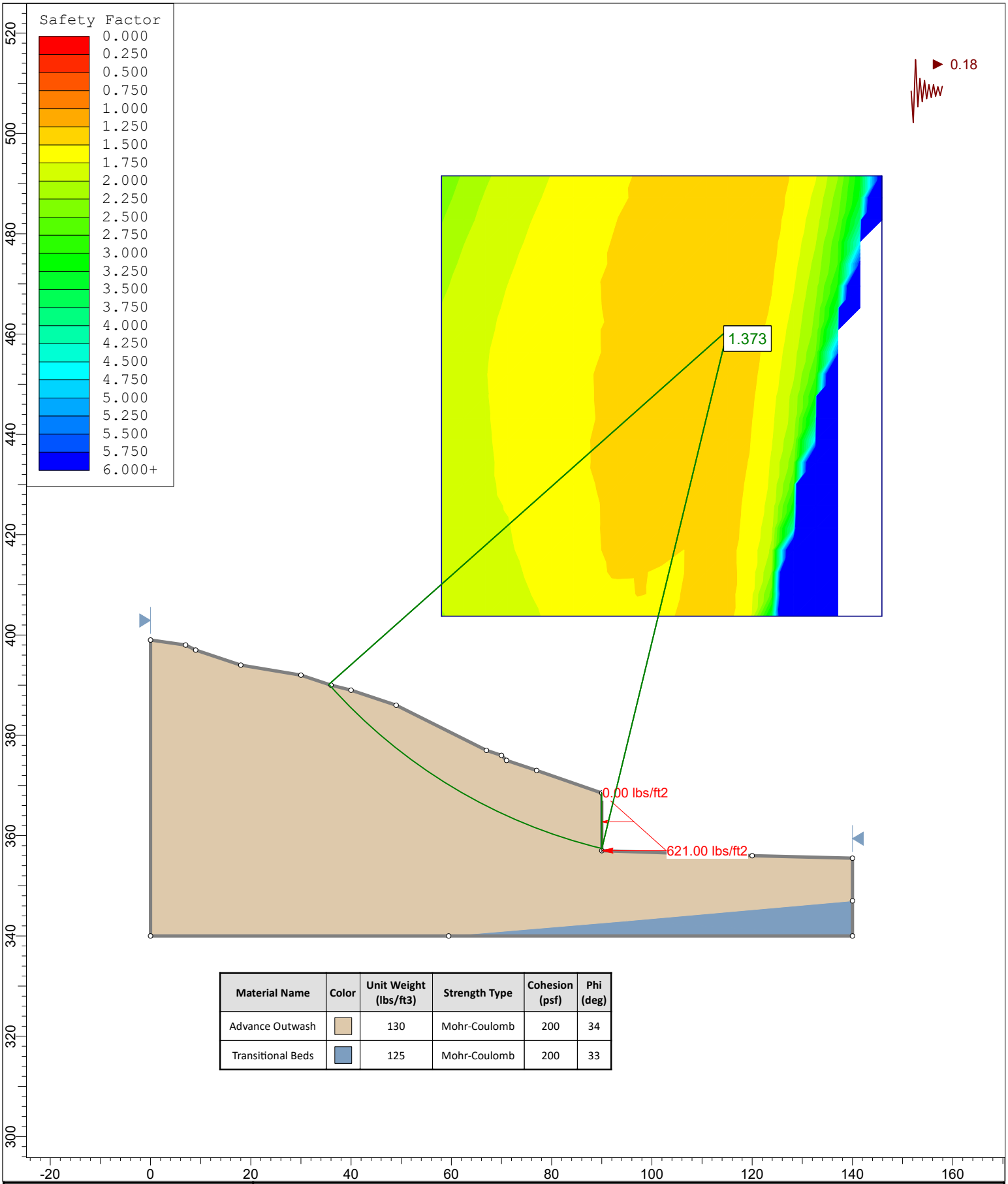


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)
Advance Outwash		130	Mohr-Coulomb	200	34
Transitional Beds		125	Mohr-Coulomb	200	33

ROBINSON NOBLE

Project	SLIDE - An Interactive Slope Stability Program		
Analysis Description	Eastwood A-A', Proposed Conditions, Static		
Drawn By	BRP	*Scale* 1:300	*Company* Robinson Noble, Inc.
Date	10/19/2020		*File Name* Eastwood A-A' proposed static.slim

SLIDEINTERPRET 6.029



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)
Advance Outwash		130	Mohr-Coulomb	200	34
Transitional Beds		125	Mohr-Coulomb	200	33

ROBINSON NOBLE

SLIDEINTERPRET 6.029

Project	SLIDE - An Interactive Slope Stability Program		
Analysis Description	Eastwood A-A', Proposed Conditions, Seismic		
Drawn By	BRP	Scale 1:300	Company Robinson Noble, Inc.
Date	10/19/2020		File Name Eastwood A-A' proposed seismic.slim

Appendix C

- Infiltration Letter

ROBINSON NOBLE

May 29, 2020

Mr. Kurt Nelson
Swift Real Estate Partners
1500 SW 1st Avenue, Suite 1020
Portland, Oregon 97201

Infiltration Letter
Crestwood Corporate Parking Lot
14725 SE 36th Street,
Bellevue, WA 98006
RN File No. 3168-001B

Dear Mr. Nelson:

This letter presents the results of our infiltration testing for the Crestwood Corporate Parking Lot project. The project is located at 14725 SE 36th Street in Bellevue, Washington, as shown on the Vicinity Map, presented as Figure 1.

You plan to develop the site with a permeable pavement, single level parking lot and infiltrate stormwater in accordance with the City of Bellevue 2020 Storm and Surface Water Engineering Standards (BSWES) and the 2014 Department of Ecology Stormwater Management Manual for Western Washington (DOE).

You have requested that we complete small scale Pilot Infiltration Tests (PITs) in the area of proposed permeable pavement to provide design infiltration rates for stormwater collected under the pavements. We have evaluated the infiltration characteristics of the soil and provide recommendations below based on the City of Bellevue 2020 Storm and Surface Water Engineering Standards (BSWES).

The BSWES presents seven steps to evaluate infiltration feasibility requirements. These steps are outlined below.

Step 1 – Review the City of Bellevue Infiltration Potential Map. The site is mapped as potentially feasible for infiltration.

Step 2 – Evaluate horizontal setbacks and site constraints. This step will be performed by others.

Step 3 – Conduct geotechnical/soil investigations and evaluate vertical separation requirements. We have previously prepared a geotechnical report titled "Updated Geotechnical

Engineering Report – Crestwood Corporate Plaza Parking Garage" dated April 13, 2017 for the planned project located at the above address.

Three borings were drilled using a track-mounted hollow stem auger drill rig on February 9, 2017 to depths of 16.5 to 26.5 feet below ground surface (bgs). Additionally, nine test pits were excavated to depths between 1.5 and 12 feet bgs using a backhoe on January 20, 2020. The location of these borings and test pits are shown on the Site Plan in Figure 2. The subsurface soils within the excavations were visually classified in general accordance with the Unified Soil Classification System, a copy of which is presented as Figure 3. More detailed logs of the test pit excavations can be found in Figures 4 through 12. A brief description of the encountered soils is given below.

Our excavations commonly encountered a surficial layer of topsoil and fill that continued to a depth of approximately 0.2 – 1.5 feet bgs. Below this surficial layer was 0.7 – 3.5 feet of brown dense silty sand with gravel and trace cobbles. This was underlain by gray very dense sand with gravel and trace cobbles. In some pits, thin (~1"), discontinuous lenses of dense silt were encountered in this lower layer. Based on textural and physical characteristics, we interpret the lower two layers as variably weathered advance outwash.

Neither groundwater seepage nor a hydraulically restrictive layer was encountered within 1 foot below the bottom of the base course for the planned permeable pavement and therefore meets the vertical separation requirements.

Step 4 – Conduct infiltration testing. We conducted two small scale PITs in the vicinity of Test Pits 1 and 3 immediately to the south of the existing building foundation as shown on the Site Plan in Figure 2. PIT 1 was excavated to 2.5 feet bgs and PIT 2 was excavated to 2 feet bgs to perform the test in the very dense sand with gravel and trace cobbles. Logs of the PITs are presented in Figures 13 and 14. Upon completion of steady state testing at PIT 2, Robinson Noble geologists discovered drain rock at the edge of the excavation. Testing was then shifted away from the drain rock and the PIT was lowered 1 additional foot to a total of 3 feet bgs. The area of PIT 2 containing drain rock was sealed with silt and the test was continued in native soil. Soils were explored to depths ranging from 7.5 to 8 feet bgs.

Each PIT was pre-soaked for approximately 6 hours. After pre-soaking, the steady state infiltration rate was measured by maintaining a constant water depth and recording the cumulative added water volume and instantaneous flow rate in 15 minute intervals for 1 hour. Following the steady state measurements the water was shut off and the rate of the water level drop was measured. The raw data is included as Appendix A in accordance with Appendix D11 of the BSWES.

Step 5 – Determine design infiltration rate. We determined the infiltration rate in accordance with BSWES which refers to the Department of Ecology Manual (DOE) Volume II, Section 3.3.6 and Table D10.2.

The measured infiltration rate ($I_{measured}$) is shown in Table 1 below. The design infiltration rate (I_{design}) is determined by applying correction factors prescribed in Table D10.2 to the measured

infiltration rate. The equation below has been developed to account for these factors and estimates the maximum design infiltration rate.

$$\text{Design Infiltration Rate} = \text{Measured Infiltration Rate} \times CF_V \times CF_T \times CF_M$$

The measured rate must be reduced through appropriate correction factors for site variability (CFv), uncertainty of test method (CFt), and degree of influent control (CFm) to prevent siltation and bio-buildup. It should be noted that construction traffic or other disturbance to the target infiltration area could compact the soil, which may decrease the effective infiltration rates. The correction factors and resulting design infiltration rate are also shown in Table 1 below.

Table 1: Measured and Design Infiltration Rates

Test Number	Test Depth (ft)	USCS	$I_{measured}$ (in/hr)	Correction Factors			I_{design} (in/hr)
				CF_V	CF_T	CF_M	
PIT-1	2.5	SP	4.92	1.0	0.5	0.9	**2.2**
PIT-2	3.0	SP	3.52	1.0	0.5	0.9	**1.6**

For groundwater protection requirements, cation exchange capacity (CEC) and organic content of samples of the soil at the infiltration testing depth of each PIT were determined by a subcontracted testing laboratory. The test results are shown in Table 2 and attached as Appendix B of this letter.

Table 2: Chemical Properties of Soil at Infiltration Test Locations

Test Number	Test Depth (ft)	USCS	CEC (meq/100g)	Organic Content
PIT-1	2.5	SP	2.1	1.0
PIT-2	3.0	SP	1.8	1.1

The test results are below 5 meq/100g for CEC and above 1% for organic content.

Step 6 – Conduct receptor characterization, groundwater monitoring, and mounding analysis. This step is not required per BSWES Table D10.2.

Step 7 – Evaluate use of infiltration to meet minimum requirements. The above infiltration rates are for the permeable pavement area.

Use of This Letter

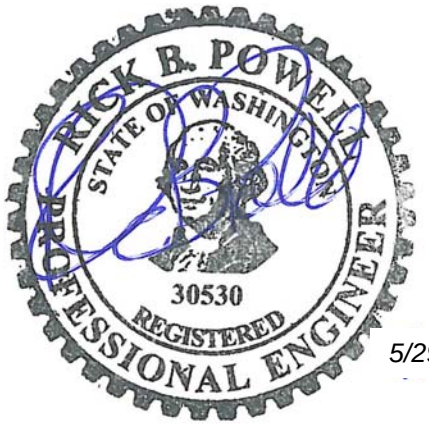
We have prepared this letter for Swift Real Estate Partners and their agents, for use in design of this project. This letter is not a complete geotechnical report. The data and letter should be provided to prospective contractors for their bidding and estimating purposes, but our letter, conclusions, and interpretations should not be construed as a warranty of subsurface

conditions. Our recommendations are based on the soil conditions encountered during our previous study.

Within the limitations of scope, schedule and budget for our services, we have strived to take care that our services have been completed in accordance with generally accepted practices followed in this area at the time this letter was prepared. No other conditions, expressed or implied, should be understood.

We appreciate the opportunity to be of service to you. If there are any questions concerning this letter or if we can provide additional services, please call.

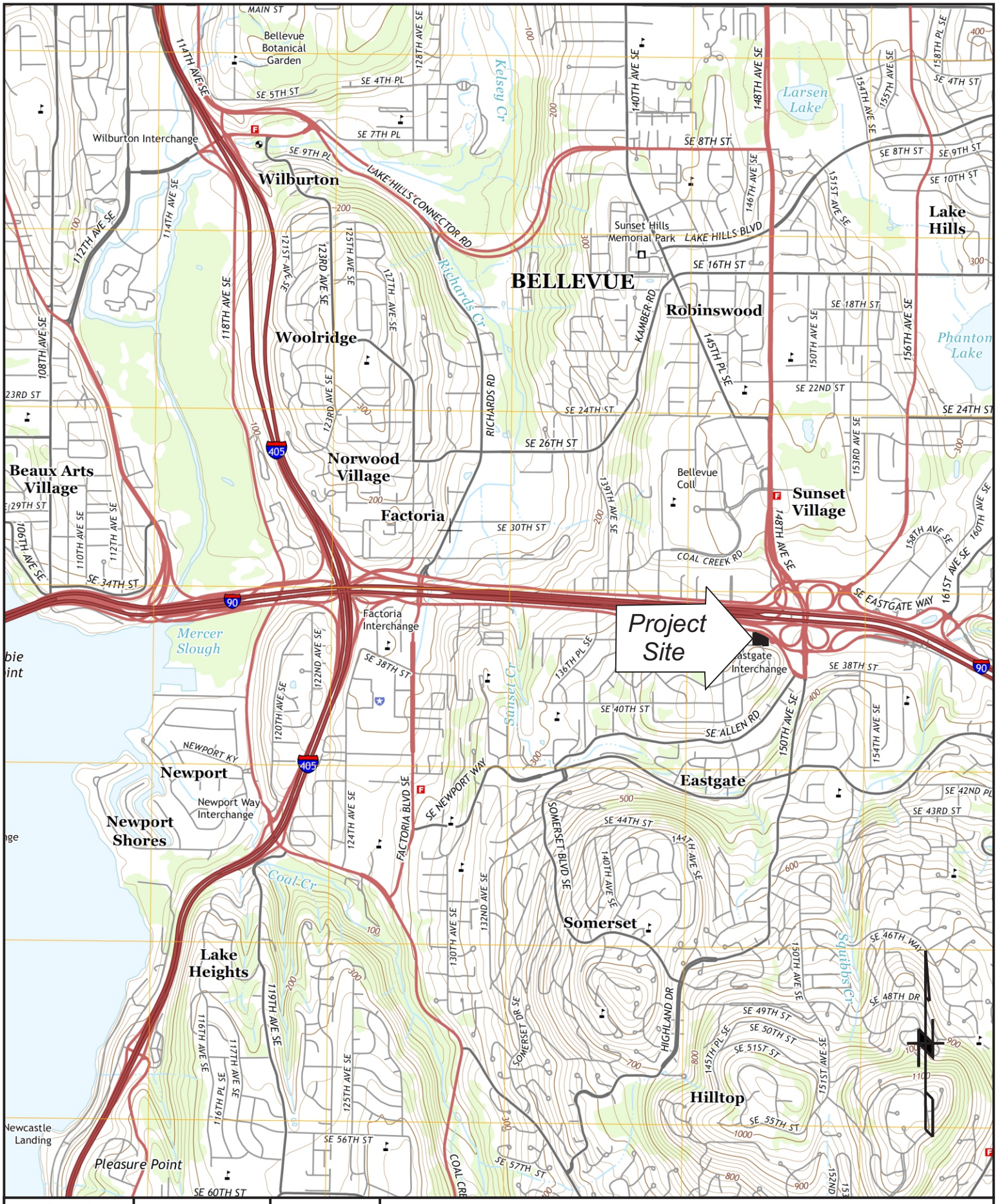
Sincerely,
Robinson Noble, Inc.



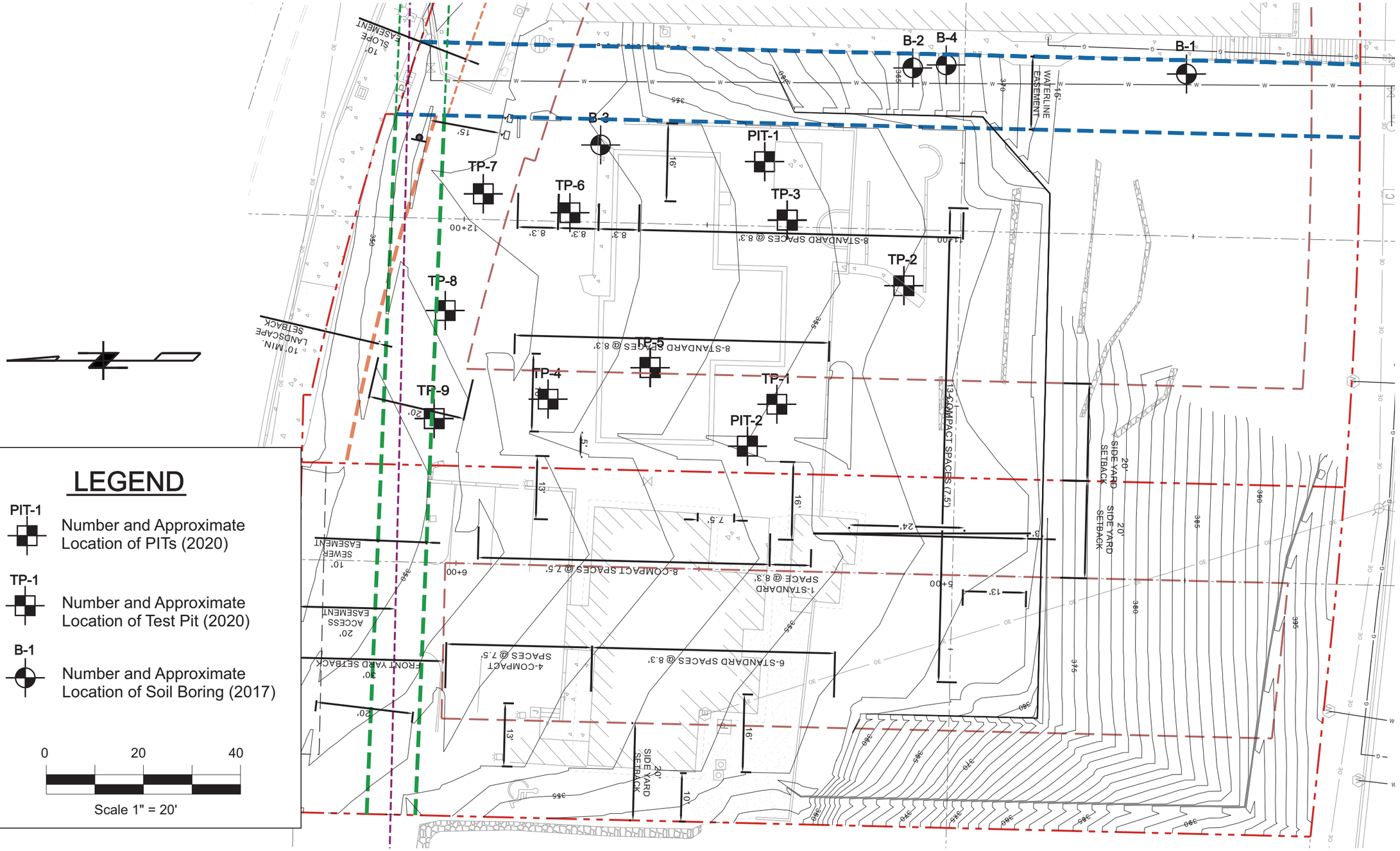
5/29/2020

Rick B. Powell, PE
Principal Engineer

Fourteen Figures
Appendix A and B



ROBINSON NOBLE	Note: Basemap taken from Mercer Island 7.5-minute series. USGS 2014.	PM: RBP May 2020 3168-001B	Figure 1 Vicinity Map Swift Real Estate Partners: Crestwood Corporate Plaza Parking Lot



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Notes:
Basemap taken from Site Plan Option 2 - 50% Compactg Ratio prepared by DOWL dated 4/10/2020.

PM: RBP
May 2020
3168-001B

Figure 2
Site Plan
Mr. Kurt Nelson: Crestwood Corporate Plaza Parking Lot

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE - GRAINED SOILS MORE THAN 50% RETAINED ON NO. 200 SIEVE	GRAVEL MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVEL	GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
			GP	POORLY-GRADED GRAVEL
		GRAVEL WITH FINES	GM	SILTY GRAVEL
			GC	CLAYEY GRAVEL
	SAND MORE THAN 50% OF COARSE FRACTION PASSES NO. 4 SIEVE	CLEAN SAND	SW	WELL-GRADED SAND, FINE TO COARSE SAND
			SP	POORLY-GRADED SAND
		SAND WITH FINES	SM	SILTY SAND
			SC	CLAYEY SAND
FINE - GRAINED SOILS MORE THAN 50% PASSES NO. 200 SIEVE	SILT AND CLAY LIQUID LIMIT LESS THAN 50%	INORGANIC	ML	SILT
			CL	CLAY
		ORGANIC	OL	ORGANIC SILT, ORGANIC CLAY
	SILT AND CLAY LIQUID LIMIT 50% OR MORE	INORGANIC	MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
			CH	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC	OH	ORGANIC CLAY, ORGANIC SILT
HIGHLY ORGANIC SOILS			PT	PEAT

NOTES:

* 1) Field classification is based on visual examination of soil in general accordance with ASTM D 2488-93.

* 2) Soil classification using laboratory tests is based on ASTM D 2487-93.

3) Descriptions of soil density or consistency are based on interpretation of blowcount data, visual appearance, of soils, and/or test data.

* Modifications have been applied to ASTM methods to describe sit and clay content.

$N_{60} = N_M * C_E * C_B * C_R * C_S$

N_M = blows/foot, measured in field

C_E = $ER_m/60$, convert measured hammer energy to 60% for comparison with design charts.

C_B = adjusts borehole diameter

C_R = rod length, adjusts for energy loss in rods

C_S = Sample liner = 1.0

SOIL MOISTURE MODIFIERS

Dry- Absence of moisture, dusty, dry to the touch

Moist- Damp, but no visible water

Wet- Visible free water or saturated, usually soil is obtained from below water table

KEY TO BORING LOG SYMBOLS

▽ Ground water level

● Blows required to drive sample 12 in. using SPT (converted to N_{60})

MC (■) = % Moisture = $\frac{\text{(Weight of water)}}{\text{(Weight of dry soil)}}$

DD = Dry Density

SM — Letter symbol for soil type

Contact between soil strata (Dashed line indicates approximate contact between soils)

ML — Letter symbol for soil type

NOTE: The stratification lines represent the approximate boundaries between soil types and the transition may be gradual

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May 2020
3168-001B

Figure 3

Swift Real Estate Partners: Crestwood Corporate Plaza Parking Lot

Test Pit 1

Date: 1/20/2020
Logged By: BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC
0.0 - 1.0	Brown sand with silt, gravel, and trace cobbles and roots (loose, moist) (**Fill**)	SP-SM
1.0 - 2.0	Gray sand with gravel and trace cobbles (very dense, moist) (**Advance Outwash**)	SP

View of Test Pit 1

Notes

- Test pit completed at 2.0 feet
- Groundwater was not observed
- Samples collected at 0.5 and 1.5 feet

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Crestwood Corporate Plaza Infiltration
RN File No. 3168-001B
Figure 4

Test Pit 2

Date: 1/20/2020
Logged By: BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC	View of Test Pit 2
0.0 - 0.3	Forest duff		
0.3 - 1.0	Brown sand with silt and gravel, trace cobbles and organics (medium dense, moist) (**Weathered Outwash**)	SP-SM	
1.0 - 2.5	Gray sand with gravel and trace cobbles (very dense, moist) (**Advance Outwash**)	SP	

Notes

- Elevation of test pit approximately 5 feet above leveled portion of site
- Test pit completed at 2.5 feet
- Groundwater was not observed
- Samples collected at 1.0 and 2.0 feet

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Figure 5

Test Pit 3

Date: 1/20/2020
Logged By: BRP
Location: 14725 SE 36th Street Bellevue, WA

Depth (ft.)	Soil Description	USC
0.0 - 0.5	Brown silty sand with gravel and trace organics (loose, moist) (**Fill**)	SM
0.5 - 1.5	Grayish brown silty sand with gravel (medium dense, moist) (**Weathered Outwash**)	SM
1.5 - 2.5	Gray sand with gravel and trace cobbles (very dense, moist) (**Advance Outwash**)	SP

View of Test Pit 3

Notes

- Test pit completed at 2.5 feet
- Groundwater was not observed
- Samples collected at 0.5, 1.0, and 2.0 feet

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Figure 6

Test Pit 4

Date: 1/20/2020
Logged By: BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC
0.0 - 0.2	Sod	
0.2 - 1.5	Brown silty sand with gravel and trace debris (dense, moist) (**Fill**)	SM
1.5 - 12.0	Dark brownish gray sand with silt, gravel, and trace debris (loose to medium dense, moist) (**Fill**)	SP-SM

View of Test Pit 4

Notes

- Test pit completed at 12.0 feet
- Groundwater was not observed
- Samples collected at 1.0, 6.0, and 12.0 feet

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Figure 7

Test Pit 5

Date: 1/20/2020
Logged By: BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC	View of Test Pit 5
0.0 - 1.5	Gray sand with gravel and trace cobbles (very dense, moist) (**Advance Outwash**)	SP	

Notes

- Elevation of test pit approximately 1.5 feet below ground surface in footprint of demolished residence
- Test pit completed at 1.5 feet
- Groundwater was not observed
- Sample collected at 1.0 foot

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Figure 8

Test Pit 6

Date: 1/20/2020
Logged By: BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC
0.0 - 1.5	Brownish gray to brown silty sand to sand with silt, with gravel (medium dense, moist) (**Fill**)	SM/SP-SM
1.5 - 3.0	Brown silty sand with gravel, cobbles, and roots (dense, moist) (**Weathered Outwash**)	SM
3.0 - 4.5	Gray rust stained sand with gravel and trace cobbles (very dense, moist) (**Advance Outwash**)	SP

View of Test Pit 6

Notes

- Test pit completed at 4.5 feet
- Groundwater was not observed
- Samples collected at 1.0, 3.0, and 4.0 feet

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Figure 9

Test Pit 7

Date: 1/20/2020
Logged By: BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC
0.0 - 0.2	Sod	
0.2 - 1.2	Brown silty sand with gravel and roots (medium dense, moist) (**Weathered Outwash**)	SM
1.2 - 2.0	Gray rust stained sand with gravel and trace cobbles (very dense, moist) (**Advance Outwash**)	SP

View of Test Pit 7

Notes

- Elevation of test pit approximately 4 feet below leveled portion of site
- Test pit completed at 2.0 feet
- Groundwater was not observed
- Samples collected at 0.5 and 1.5 feet

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Figure 10

Test Pit 8

Date: 1/20/2020
Logged By: BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC
0.0 - 1.5	Dark brown silty sand with organics and trace gravel (loose, moist) (**Topsoil**)	SM
1.5 - 3.0	Brown silty sand with gravel and trace cobbles, boulders, and organics (medium dense, moist) (**Weathered Outwash**)	SM
3.0 - 4.5	Gray rust stained sand with gravel and cobbles (very dense, moist) (**Advance Outwash**)	SP

View of Test Pit 8

Notes

- Test pit completed at 4.5 feet
- Groundwater was not observed
- Samples collected at 0.5, 1.5, and 3.5 feet

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Figure 11

Test Pit 9

Date: 1/20/2020
Logged By: BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC
0.0 - 3.5	Dark brownish gray sand with silt and gravel (loose, moist) (**Fill**)	SP-SM
3.5 - 5.0	Brown silty sand with gravel and trace cobbles (dense, moist) (**Weathered Outwash**)	SM
5.0 - 5.5	Brownish gray sand to sand with silt, with gravel and cobbles (very dense, moist) (**Advance Outwash**)	SP/SP-SM

View of Test Pit 9

Notes

- Test pit completed at 5.5 feet
- Groundwater was not observed
- Samples collected at 3.0, 4.0, and 5.5 feet

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Crestwood Corporate Plaza Infiltration
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Figure 12

Appendix A

- Infiltration Testing

Infiltration Pit 1

Date: 4/30/2020
Logged By: TAC/BRP
Location: 14725 SE 36th Street Bellevue, WA

Depth (ft.)	Soil Description	USC	View of Test Pit 1
0.0 - 0.25	Dark brown silty fine to medium sand with gravel, roots, and trace debris (medium dense, slightly moist) (**Fill**)	SM	
0.3 - 1.3	Reddish-brown silty fine to medium sand with gravel (dense, slightly moist) (**Weathered Advance Outwash**)	SM	
1.3 - 7.5	Gray fine to medium sand with gravel and trace cobbles, occasional thin (1") layers of gray and yellow silt, intermittant moderately cemented (very dense, slightly moist) (**Advance Outwash**)	SP	

Notes

- Small-scale PIT completed at depth of 2.5 feet.
- Soils explored at location of PIT to 7.5 feet.
- Minor fill encountered in PITs from previous grading and development.
- Groundwater was not observed .
- Samples collected at 0.5 and 1.7 feet.

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Crestwood Corporate Plaza Infiltration
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Figure A1

Infiltration Pit 2

Date: 4/30/2020
Logged By: TAC/BRP

Location: 14725 SE 36th Street
Bellevue, WA

Depth (ft.)	Soil Description	USC	View of Test Pit 2
0.0 - 0.2	Dark brown silty fine to medium sand with gravel and roots (medium dense, slightly moist) (**Fill**)	SM	
0.2 - 0.75	Reddish-brown silty fine to medium sand with gravel (dense, slightly moist) (**Weathered Advance Outwash**)	SM	
0.75 - 8	Gray fine to medium sand with gravel and trace cobbles, occasional thin (1") layers of gray and yellow silt, intermittant moderately cemented (very dense, slightly moist) (**Advance Outwash**)	SP	

Notes

- Small-scale PIT completed at depth of 3 feet.
- Soils explored at location of PIT to 8 feet.
- Minor fill encountered in PITs from previous grading and development.
- Groundwater was not observed .
- Samples collected at 0.5 and 1.3 feet.

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Crestwood Corporate Plaza Infiltration
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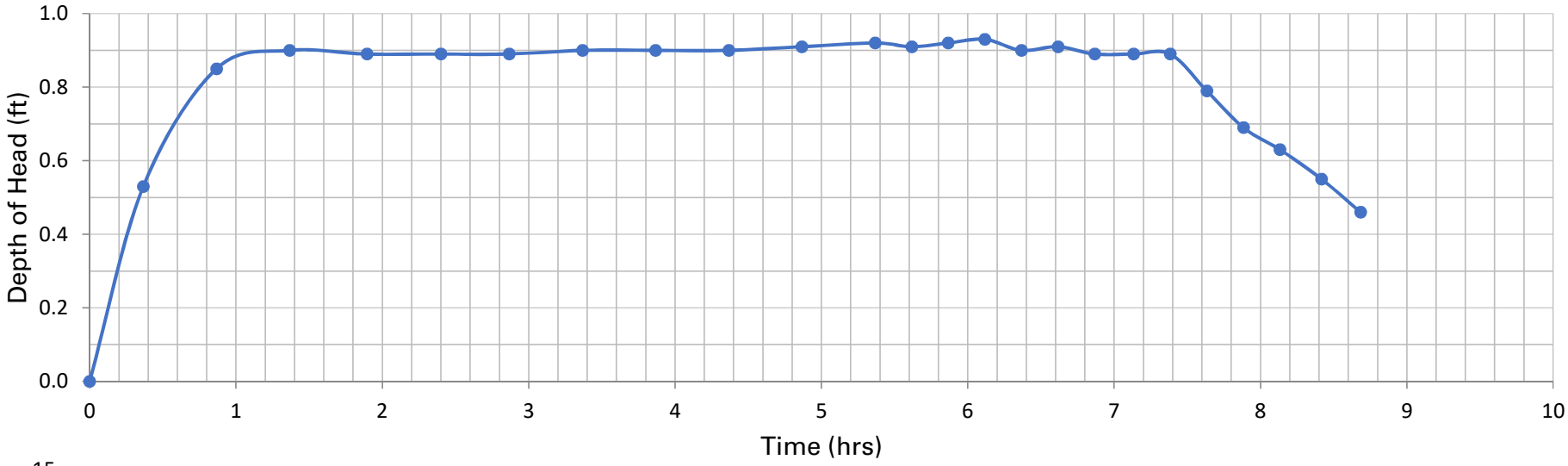
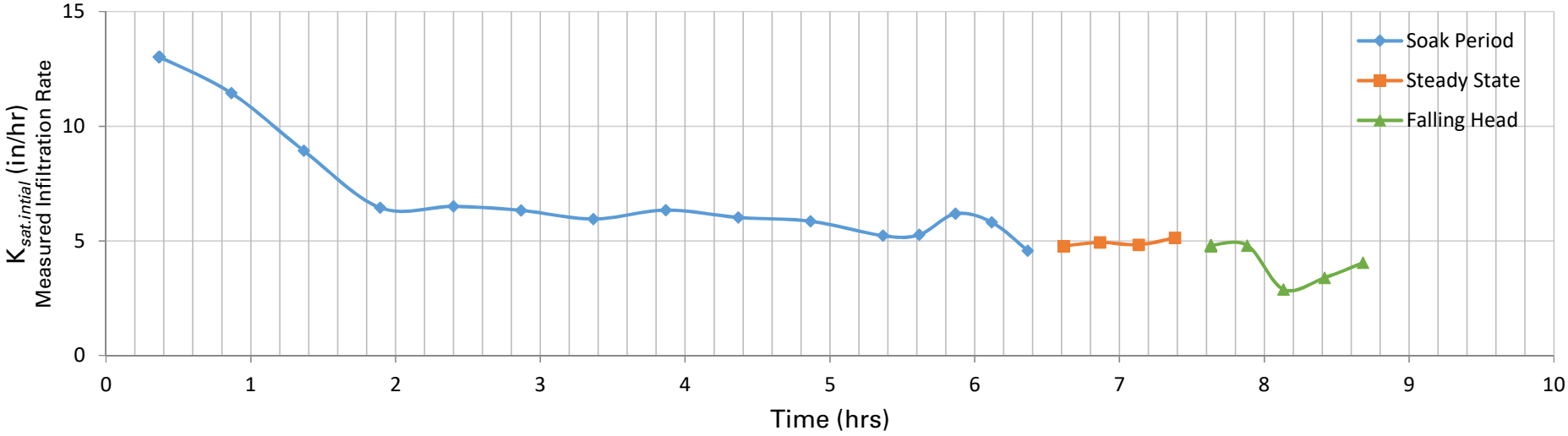
Figure A2

Pilot Infiltration Test Results





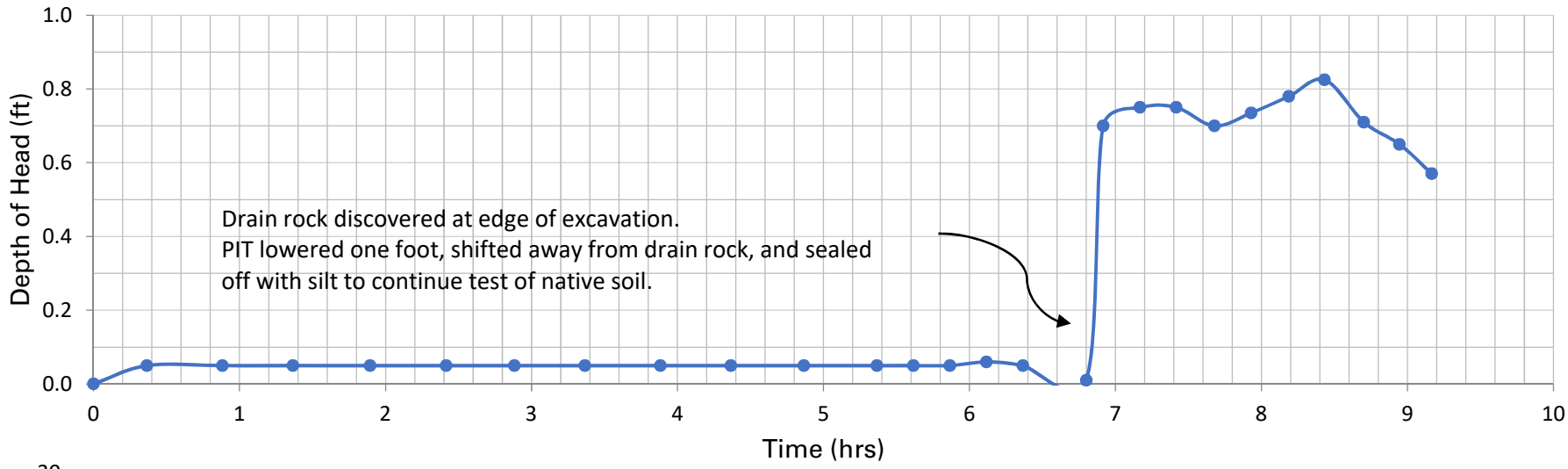
Test #	PIT-1 (east)	PIT Dimensions				USCS	Soil Description
Tested by:	BRP/TAC	Length (ft)	6.5	Depth (ft)	2.5	SP	Gray sand with gravel and trace cobbles, (very dense, slightly moist)
Date of test:	4/30/2020	Width (ft)	4	Area (ft^2)	26		**Advance outwash**

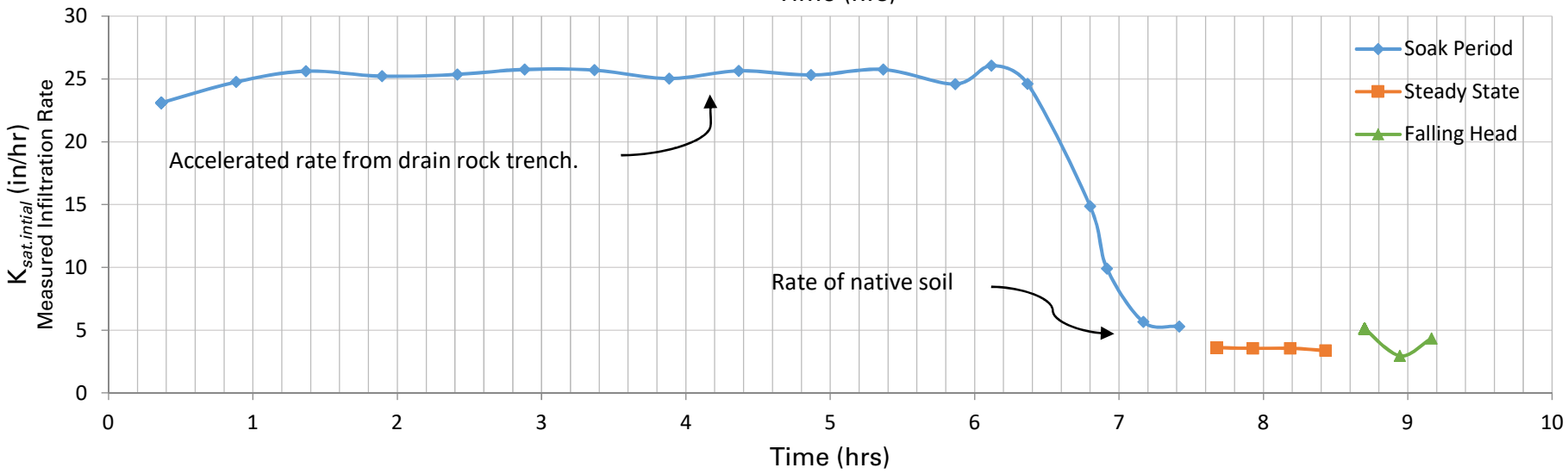
ROBINSON NOBLE

PM: BAG
April 2020

Figure A3
PIT-1 Infiltration Test Log

Pilot Infiltration Test Results





Test #	PIT-2	PIT Dimensions				USCS	Soil Description
Tested by:	BRP/TAC	Length (ft)	5.5	Depth (ft)	2	SP	Gray sand with gravel and trace cobbles, (very dense, moist)
Date of test:	4/30/2020	Width (ft)	4.5	Area (ft^2)	24.75		**Advance outwash**

ROBINSON NOBLE

PM: RBP
May 2020

Figure A4
PIT-2 Infiltration Test Log

Appendix B

- Testing Laboratory Results

Am Test Inc.
13600 NE 126TH PL
Suite C
Kirkland, WA 98034
(425) 885-1664
www.amtestlab.com

Professional Analytical Services

ANALYSIS REPORT

ROBINSON NOBLE
17625 130TH AVE NE
WOODINVILLE, WA 98072
Attention: BRAYDEN PITTSENBARGER
Project Name: CRESTWOOD
Project #: 3168-113
All results reported on an as received basis.

Date Received: 05/07/20
Date Reported: 5/28/20

AMTEST Identification Number **20-A006020**
Client Identification **PIT 1 2.5'**
Sampling Date **04/30/20, 16:00**

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Cation Exchange Capacity	2.1	meq/100g		0.5	SW-846 9081	HKL	05/27/20

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Organic Matter	1.0	%			SM 2540G	DM	05/15/20

AMTEST Identification Number **20-A006021**
Client Identification **PIT 2 3'**
Sampling Date **04/30/20, 16:00**

Conventionals

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANALYST	DATE
Cation Exchange Capacity	1.8	meq/100g		0.5	SW-846 9081	HKL	05/27/20

ROBINSON NOBLE
Project Name: CRESTWOOD
AmTest ID: 20-A006021

Miscellaneous

PARAMETER	RESULT	UNITS	Q	D.L.	METHOD	ANLST	DATE
Organic Matter	1.1	%			SM 2540G	DM	05/15/20

Kathy Fugiel
President